THE EVOLUTION

OF THE

HEBREW LANGUAGE

EDKINS

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HEBREW LANGUAGE

BY

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"EVOLUTION OF THE CHINESE LANGUAGE", "CHINA'S PLACE IN PHILOLOGY", "CHINESE BUDDHISM", ETC.

LONDON

TRÜBNER AND Co.,
57 & 59 LUDGATE HILL
1889

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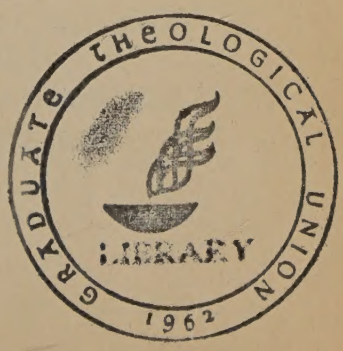

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PREFACE.

Hebrew in the time of the Judges was as much the speech of the Moabites as of Israel, and Naomi and her daughters in law spoke one language while their nationality differed. This is made clear by the discovery of the Moabite stone. The Hebrew language was Semitic before it was Hebrew, and it became what it was by the conditions of Semitic life. The people from whom Israel sprang were nomades who became warlike and overpowered the feebler races who on the banks of great rivers tilled their lands and thereby acquired wealth. This wealth they used as capital in founding mechanical industries, in vast building operations and in supporting priests, physicians, diviners, schoolmasters, and officers of government. When the nomade tribes of the Semitic race had conquered these agricultural nations, their language underwent important modifications, and here lies the secret of the peculiarities of Hebrew and other languages of the same family. These languages owe their special principles to the clash of nomade and agricultural populations meeting in war, and subsequently living together on the same soil.

Semitic speech changed very early from a biliteral to a triliteral type by the result of the working of

the principle of derivation. Derivation first made dissyllables out of monosyllables and then proceeded to form the paradigms of Semitic speech. Every mood, every tense, each conjugational variety in form is an example of derivation. The laws by which derivation created in succession the multitudinous forms of Semitic grammar were physiological. In introducing consonants to make words the law was, first, labials, then dentals and extension letters, then gutturals. In selecting vowels the order commenced with those pronounced by the open mouth and they were followed by such as are pronounced with a narrow vocal aperture. Mental states are either intense or tranquil. The narrow-aperture vowels in Semitic grammar are used for intensity, causation, or the change from the active to the passive, while vowels of wide aperture are used predominantly for the past tense. On the whole **o** is imperative, **u** is passive, **i** and narrow **a** are causative, and broad **a** is preterite; but the ultimate classification is twofold, excited states and tranquil states. The mind if excited raises the lower jaw as when commanding, or when describing causation, or when changing the stand point of the idea from active into passive. For simple narrative the jaw falls because there is no excitement. This explains the preterite. The future counts as a derivative form of the imperative.

The aim of this book is to shew that Semitic speech is fundamentally monosyllabic and that the complexities of its grammatical forms have grown up

under the sheltering wings of the old civilization. The attempt is here made to depict the successful ingenuity of the language-making faculty in applying to special uses, in a most orderly manner, the vocal powers of the human mouth. In proceeding to explain Semitic syntax the influence of African grammar is claimed as required to account for some notable features in the Semitic order of words. The four transpositions which meet the eye of the investigator are, the predicating verb before its subject, the nominative before the genitive of origin, the substantive before its adjective, and, in Hebrew the future and past tenses changing places. But underneath this syntax there are numerous examples of the old Asiatic syntax of the Chinese and Ural Altaic stems. The people speaking Tartar, Chinese, Japanese, and Dravidian, have never had the stimulus of collision which would have originated a syntax of transpositions. The oldest type of Semitic syntax is in most respects like that of these nations. In the first ages syntax could be no other than subject before predicate, genitive of origin before the object originated, and adjective before substantive.

There is nothing in all this beyond the known capacity of the human mind to accomplish, and facts seem to show that it was in this way that Semitic speech came to be what it now is.

Theologically also it is of high interest to look steadily at the Semitic family of languages from the point of view here adopted. We need to inquire into

the mode by which the Hebrew language was providentially fitted to become the medium of high religious inspiration. The great literary beauty of the old Testament has always been a powerful attraction inviting readers of all classes of culture to this ancient book. The moral and religious ideas of this book have been adopted by all the most enlightened and advanced nations. Hence the ethical and sacred vocabulary used by Hebrew seers ought to be investigated from its sources. The vestiges of the speech of times which have left no written history are to be found in the language with which Moses, David, and Isaiah clothed their thoughts. It is reasonable to expect that if the religious and moral phraseology of the Semitic race is ultimately identical with that of nations farther east, more light will yet be thrown by philology on the religious ideas of the first inhabitants of Asia. The record in the early part of Genesis is quite too brief to satisfy us in an age of discoveries such as that in which we live ; and we may look for fuller information on the spiritual history of our race before the time of Abraham.

Peking, Nov. 10, 1888.

J. E.

SYMBOLS EMPLOYED IN THIS WORK.

Teth	t‘	Samech	s‘
Ayin	ⁿga	Koph	q

TABLE OF CONTENTS.

CHAPTER I.

TEN PRINCIPLES IN THE EVOLUTION OF ALL LANGUAGES, p. 1 to 7.

Physiology questioned on the origin of language by evolution. Labial letters first. Dentals second. Gutturals third. Order of time in sentences. Roots composite.

CHAPTER II.

THE FOREGOING PRINCIPLES SHEWN TO EXIST IN HEBREW, p. 8 to 28.

Roots examined. Those having labials the oldest. Slowly assumed their present shape.

CHAPTER III.

EVOLÜTION OF SOUNDS, p. 43 to 51.

Tables of vowels and consonants based on the most recent physiological research, to shew the evolution of Hebrew sounds.

CHAPTER IV.

THE BILITERAL ROOTS p. 52 to 60.

Twelve hundred monosyllables are the basis of the Hebrew vocabulary, which contains about eleven thousand derivatives. Contemporaneons civilization in the monosyllabic age. Semitism began at the end of this age.

CHAPTER V.

THE SYNTAX OF THE BILITERAL PERIOD, p. 52 to 60.

Hebrew syntax has four principal transpositions. Avoiding these the biliteral order of words occurs in sheltered situations throughout the Hebrew Bible. It occurs in old tense forms. Causes of the transpositions, historical and physiological.

CHAPTER VI.

THE TRILITERAL PERIOD p. 61 to 64.

Divided into sub-periods. Theory of triliteral roots dates from 10th century. Modern views. Appeal to physiology against the

triliteral theory. Triliteral roots appeared for the first time during the growth of Semitism.

CHAPTER VII.

GROWTH OF THE TRILITERAL ROOTS p. 65 to 77.

In triliteral roots Alef, Vav, Yad are true vowels. Roots were words in actual use while the paradigms were in course of formation and before. Principles observable in the growth of triliteral roots from the biliterals. Distinction of radical and servile letters vanishes in high antiquity.

CHAPTER VIII.

TYPES OF THE CONJUGATIONS OCCURRING IN TRILITERAL ROOTS p. 78 to 81.

The Semitic consciousness aimed in the first instance only at derivatives, but amidst the mass of lengthened words, types of the paradigm forms soon appeared in advance of the paradigms.

CHAPTER IX.

PRONOUNS, p. 82 to 88.

No feminine pronouns in the biliteral period. Among pronouns the demonstrative was the earliest. Others were formed from it. Marks for gender, number, and case, belong to the triliteral period.

CHAPTER X.

DERIVATION, p. 89 to 94.

All grammatical forms are derivatives. While physiology incessantly changes the elements of words, the mind assigns to them their new meanings and uses. Mental emotion uses muscular intensity as a servant in word-making. Intermingling of gesture.

CHAPTER XI.

GROWTH OF THE MOODS AND TENSES, p. 95 to 103.

No Indo European influence on Semitism. Visible Ural-Altaic influence. Egyptian influence. Kal first formed. Imperative mood, the most important centre of growth for verb forms, because it is the most emotional. Emotional moods have intense vowels. Tranquil moods have lax vowels.

CHAPTER XII.

GROWTH OF THE CONJUGATIONS, p. 104 to 108.

Passive. Intensitive. Causative. Reflexive.

CHAPTER XIII.

SUBSTANTIVES AND ADJECTIVES, p. 109 to 118.

The transitive and objective idea among substantives. The passive and intransitive sense in adjectives. Pairing of adjectives. Gender. Number. Case.

CHAPTER XIV.

ADVERBS, PREPOSITIONS, CONJUNCTIONS, AND INTERJECTIONS, p. 119 to 121.

Origin of adverbs. Interrogative. Transformed pronouns.

CHAPTER XV.

SYNTAX OF THE TRILITERAL PERIOD, p. 122 to 130.

Present expressed by a participle. Clauses are subordinate and conclusive. But Semitic speakers while retaining this old distinction are fonder of the indicative as being briefer and more emotional. The new syntax spread from its starting point in Egypt over the whole area occupied by the Semitic race.

CHAPTER XVI.

ACTIVITY OF THE MIND EXHIBITED IN THE GROWTH OF LANGUAGE. p. 131 to 138.

The Semitic mind worked up the old materials which it received from the Asiatic mother language into new forms. Enumeration of the mental powers needed in forming the Semitic vocabulary and grammar.

APPENDIX.

Archaic Hebrew in the Pentateuch. Subordinate clause. Nominative follows the genitive. Evolution of consonants. Shibboleth. Aspiration. Accent. Roots.

ERRATA.

Page 38. Table of Hebrew consonants. In the 5th column **z** and **zh** should change places. In the 10th column, **tsh**, **dzh**, Jeem should be moved to the square above them.

EVOLUTION

OF THE

HEBREW LANGUAGE.

CHAPTER I.

TEN PRINCIPLES IN THE EVOLUTION OF ALL LANGUAGES.

By the application of physiology to the study of human speech we may distinguish between characteristics common to all languages and special and local peculiarities. Thus in the Hebrew there are principles peculiar to that tongue and other principles which are the same in the speech of races far removed. The structure of the various parts of the mouth being similar for all mankind, with trifling exceptions, there are likely to be certain permanent influences in operation which in Hebrew and in Semitic languages generally are the same as in other tongues and families. These physiology will help us to discover.

The lips having been accustomed to suction in infancy have acquired great suppleness of structure and it is they that give utterance to the first articulate sounds. The first sounds are labial. Hence in the roots of languages labial letters are the oldest.

Consequently other letters are gradually produced by slight changes from the labials. It would have been impossible for other consonants to be as old as the labials, because a natural priority belongs to the letters pronounced by the lips. As the lips are the door of the mouth, so the labial letters are the door to the human vocabulary in all languages. The Hebrew lip letters are **m, b, p, f, v, a, o, u, w, i.**

The tongue in taking food has become accustomed to assume a large variety of positions. It moves forward to receive nutriment. It moves backward to convey food to the throat. It moves upward at several points to come in contact with the palate, the soft palate and the upper and lower teeth. The letters **d, t, n, l, r, y, s, sh, z, zh, ch, th, dh, g, k,** with the glides and vowels are made by the tongue and the tongue's help is needed in pronouncing **a, o, i,** so that there is not one of the vowels that the tongue does not assist in forming. The teeth, palate and soft palate all perform also an important part in producing alphabetic sounds.

The nose is useful in forming the consonants **m, n, ng.** The ear gives intelligence of the sounds which are to be imitated. The vibrations of the outside air by which the nerves of the ear are struck are communicated to the mind and form the model which is imitated by the sounds of the mouth. The imitative sounds of the mouth and nose are an attempted reproduction of the sounds that enter by the ear.

The eye marks the order of phenomena and helps the mind to register them correctly. Hence the power of vision is at the foundation of the order of words in syntax. The ear and the other sensorial organs take part in communicating to the mind a constant variety of external phenomena accurately in the order in which they occur. Thus they help in the department of syntax.

The hands and feet assist in the formation of words by striking, pointing, walking, running and performing many other actions. As pointing is essential to the formation of pronouns and of words to express the categories above, below, right, left, before, behind and the like, the hand and the act of pointing, the pronouns of pointing and the words expressive of these categories would quite early take a name or names. Some word or words composed of labial letters, vowels and consonants, would be used for this purpose.

The sounds made by the hands and feet in performing all sorts of actions, in addition to every kind of natural sound otherwise originated, are conveyed to the mind through the ear. The mind is the true word maker. It creates words out of sounds which carry a signification with them and constitute the materials of which words are made by imitating those sounds with the help of the vocal organs.

Language like a house is built stone by stone. One brick is laid on at a time by each mason. When a course is finished another course is begun. In building the temple of language much time is needed. The masons are mankind and the work proceeds slowly. There is this difference. The bricks of the temple of language are formed by evolution one out of another. Some change occurs in the alphabetic elements of a word and the meaning changes slightly. The new sound constitutes a mark sufficiently distinctive to denote permanently the new meaning attached to the new word.

The following principles may be observed in all languages.

1. When one word is formed from another, *a slight change in the sense is accompanied* as a distinctive mark *by a slight change in the sound.* This is true in all languages.

2. *The first words were* by the requirements of physiology necessarily composed of *labials*. Under this word are to be included the vowels **a, i, u**, because of the widening, narrowing, rounding and protrusion of the lip aperture when they are pronounced. In all languages labial consonants have changed to dental, palatal, guttural sounds by easy steps. So the primary vowels have been changed for other vowels by a gradual slipping process. This is the second permanent and universal principle which affects Semitic languages as it does other tongues.

3. *The order of time and nature* in the phenomena observed by the eye and ear and reported to the mind *is* in the first instance *the order of words in* all *primeval* human *speech*. There are traces of this primeval syntax even in Hebrew, although the syntax of that tongue has become strangely modified. This is the third permanent principle affecting all languages.

4. The *words* of primeval speech were the *sounds heard in nature* reproduced. These sounds were in part independent of human action and in part produced by that action. The *hands* and *feet had a* most important *share in producing the sounds* that formed the basis of human words. This is the fourth universal principle.

5. In the chaos out of which languages emerged, the *hand*, the *act of striking*, the act of *pointing*, the *demonstrative* pronoun and the *object* pointed at or struck *all had one name*, that name being, the sound imitated. One basis served for all. The mind out of this common root formed words one ofter another, each of them suitable for some one special idea. The hand, the demonstrative pronoun, the act of pointing and the object struck or pointed at, received in succession an appropriate name having a sufficiently distinctive vocal form. This is the fifth universal principle control-

ling the formation of words in all languages at the beginning.

6. A long period was needed for the growth of words while controlled by a smooth and natural syntax which concatenated them without inversions. There was a *labial period*, a *dental period* and a *guttural period*. At the same time open syllable roots could become closed syllables and an approach could be made to triliteral roots. The strongly triliteral character of Semitic roots compels us to ascribe to this family in its first stages a long period of development anterior to the formation of Semitic grammar. Excluding from our view for the moment this formation of triliteral roots from the biliteral, as peculiarly Semitic, we may state the sixth universal principle to be the necessity of a labial age, a tooth age and a guttural age previous to the completed growth of all specific grammatical systems.

7. *Nasals and sonants precede surds*. This is on account of the louder sound being more distinct to the ears of primeval men. As civilization advances sounds of a lighter texture are acceptable. The law of change from sonant to surd is proved in the history of Chinese sounds and probably may be viewed as a principle applicable to all languages, but local exceptions are numerous. It is the seventh general principle.

8. There is an order *in the evolution of words* one from another. *The material precedes the moral* and is the parent of the moral. The significant word precedes the particle. Each abstract term is derived from a substantial term. Intellectual words are born from physical words. A word becomes more generic and abstract as the thinking of mankind proceeds and when it has become a genus, it gives birth to species by subdivision. For example the general name tree was made before the names of species of trees. Each species of trees received its name by sub-

division of the genus. Before tree was a genus it was a species if viewed as one among natural objects known to man. This law of evolution by which the mind perpetually ascends from the concrete to the abstract and from the simple to the compound is common to all languages and constitutes the eighth general principle.

9. In the order of evolution *tones and accents* of every kind used in languages are introduced after the words and syntax are formed and as a rule they *are contemporary with the literature of a nation* in its early stages. Tones and accents are felt to be needful when the love of rhythmus grows up and a tendency to speak in poetic language appears. Rhythmus, tone and accent with music are signs of mental emotion, and they help to embody the elevated moods of an individual mind in forms of speech such as may excite in others corresponding emotions. But whether they are used in dividing and connecting sentences or are mainly musical (as in Hebrew) or applied to distinguish words from each other (as in Chinese), the time when they are developed is after the grammar and vocabulary are complete, because the process of evolution begins with the labials at the lips and ends with the tones at the larynx. This is the ninth general principle applicable alike to all languages.

10. *All roots* except those consisting of one vowel, *are composite* in their nature. They are formed like man himself of intellectual and material elements. The material element is the sound and this is subject to successive changes in the course of ages. The intellectual element is the sense attached to the sound by the mind and this also is liable to constant modifications. The material element is composite being the vocal imitation of one, two or more sounds. The intellectual element is also composite and includes the varieties in sense which the mind assigns to the root.

A Semitic root like any other root is a compound of ideas and sounds formed by successive increments. Philology takes the roots to pieces and describes their growth. This composite character of roots belongs to all languages.

These ten principles are but a selection from the more important principles found in languages.

CHAPTER II

THE FOREGOING TEN GENERAL PRINCIPLES SHEWN TO EXIST IN HEBREW.

The *first principle*, that when one word is formed from another a slight change in the sense is accompanied by some sufficiently distinctive mark in sound, is found in Hebrew as in other languages. **Bādad,** to divide, a verb of cutting, in the form **bad** means, a division, a part. We had better treat **bad** as the root and **ad** as a suffix giving it a transitive sense. If we prefix a preposition **le** "to" to **bad** it becomes an adverb "by himself", "alone". The reason at first operating for the addition of a second **d** would be to give the word greater intensity. If **bādad** is used as a noun "separation," the short **a** of the added syllable becomes long. Later badad took the sense of a preterite.

The *second principle* is that roots having tooth and guttural letters are formed from identical roots with labial letters. To shew that this is true in Hebrew we may collect synonyms. **Bamah,** a high place, is similar in idea to **ram,** high, and **kum,** to stand up, to rise. Another example is **natsab,** set upright: as compared with **yatsab** and **yatsag** where **g** expresents **b.** In this instance **tsab** is the root, if, as we are at liberty to do, we allow **y** and **n** to be prefixes. **Kun,** to set upright, is the same in idea as **banah** to build.

The pronouns **poh, poa** "here" **mah,** "what", **mi,** "who", are formed from an old demonstrative which is lost. The interrogatives are by a natural process of evolution formed from demonstratives because the act of the hand in pointing to a person or thing is

identical whether the mental attitude is that of assertion or of interrogation. We have then in these words demonstratives in **p** and **m**, metamorphosed and rendered interrogative by the hesitation of the presiding mind. The pronouns **zeh**, **zoth**, "this", **ēlleh** "these", the article **ha**, and the relative **asher**, the third personal pronoun **hu**, **hi** "he" or "she", with their plurals **hemmah**, **hem**, and **henna**, **hen**, are all to be viewed as formed from the lost demonstrative in **p** and **m**. The Chaldee form **da** is the parent of the Hebrew **zeh**, the Arabic being **dhu**, **dhi**, **dha**. The course of evolution is from **b** to **d** and from **d** to **z**. In Arabic **man** is "he who", "that which", **ma** is "that which". In Syriac **hon** and **hono** are "this". The Syriac relative is **da**, and is apparently the same word with the demonstrative in that language.

A word like **stand**, to **set up**, would be at first the sound of the foot planted firmly on the ground. Let us suppose it to have been first named with a labial initial and final **bam**, **nam**, **bab** or **nab**. The idea of "remaining" would be derivative from this. We have the Chaldee **buth**, Syriac **both**, to pass the night, remain, with **b** as the first radical. B is the third radical in Heb. **yāshăb**, dwell **nātsăb**, set up, place, **yātsăb**, the last of these representing the idea causatively. **G** and **k** appear for **b** in **yatsag** and **yatsaq** in the Hiphil formation. In **shith** "to place", we find the initial **b** has become **sh** and the final **b** is **th**. In **sum** "to place" we have the final still a labial, Syr. **som**.

Thus the original form of the Semitic root from which the Hebrew roots are developed would be a biliteral or triliteral stem, either **ba**, **ma**, **ab**, **am** or **bam**, **bab**, **mam**, **mab**. The reason of its being fourfold is the ease with which **m** and **b** interchange and repeat themselves.

The sounds of all living languages are in a state of unceasing

flux till the languages die. Change is more rapid in the infancy and childhood of language, before it is accompanied by a literature, than afterwards, and we cannot now recover the intermediate steps anterior to the literature, but the law of change is on the whole from the lips to the throat for consonants.

As to vowels the most visible and therefore the most easily imitated is **a**, on account of the lips opening wide as the tongue descends through its whole length. The vowel **i** is high and the tongue is raised to pronounce it so that it is visible to the person addressed and capable of being imitated. The third **u** or **o** is visible on account of protruding or rounding the lips, the lower lip rising as the tongue rises. The call of the crow, horse and pigeon represent these three vowels **a, i, u.** But it may be asked how far a vowel changes? and by what changes in the mouth is it accompanied? We find that Qametz, long **a**, becomes Pattakh, short **a**, Khireq long becomes Khireq short (**ī** becomes **ĭ**) and Kholem becomes Qametz Khatuph (**ō** becomes **ŏ**). If **u** was older than **o**, Shureq would become Qibbutz (**ū** becomes **ŭ**). Now Qametz the **a** of "psalm" becomes Pattakh, the **a** of "sand", by the middle of the tongue rising so as to touch the palate while the point of the tongue lies quite low as before. Long Khireq becomes short by a widening of the pharynx and the drawing back into that cavity of the soft palate (1) while the tongue is quite high just within the upper gum in both cases. The change from the **u** of pool to that of good is effected in the same way as in the case of **i**. If however the change be from **o** in the English **go** to **o** in the English **on** it is effected by dropping the tongue through its whole length to a lower position. The vowel points tell us what the value of the vowels was in the time of the Caliphs.

(1) Melville Bell's Visible Speech.

If we go farther back we may examine proper names in the Septuagint and ask what the vowels were at still earlier periods when Aleph, Yad, Ayin and Vav, were their only representatives. We can understand why the Jews under the Caliphs did not find it convenient to view Aleph as a vowel, because in their time **am** "mother" was called **ēm** while **ab** "father" was called **āv.** The irregularities were too numerous to permit Aleph to be a symbol for a vowel. So with Vav and Yad. They were needed in triliteral roots and they have a consonant power. The Jews of that age found that there were ten vowels to write and they resolved to make new symbols and to treat Aleph as a consonant to suit the triliteral theory although it never was and never could be a consonant. Under the circumstances we may either regard the use of Aleph in writing the word for mother as proof that **ām** is the old sound or near the old sound of **ēm** "mother" at the time of the invention of the Phœnician alphabet or adopt the hypothesis which views Aleph, Vav, Yad and Ayin as each embracing one or more vowel sounds at the time of the first writing of Hebrew speech.

We take then the four letters Aleph, Vav, Ayin and Yad to represent the vowels in the time of the first use of writing by the Hebrews, and at a date coeval with the adoption of the Phœnician alphabet by the Greeks when Aleph became the Greek Alpha, and Ayin, Vav and Yad became the Greek Omicron, Upsilon and Iota. The Greek use of these four letters warrants us in regarding them as primarily vowel symbols. If we do this we may conclude that about B. C. 1600 the Hebrew had four principal vowels with variations and that they increased to ten between B. C. 1600 and the time when Hebrew became a dead language. The vowel a of B. C. 1600 became **tsere** in **em** and such like words. The same vowel **a** became in Aramaic **o,** in the names of several letters and

in many words. In some words it takes in Aramaic the force of **e**. We have then in such facts clear proof that the low, back, wide, vowel **a** changed anciently to the middle front primary vowel **e** and later to the middle back round vowel **o**. We may conclude that the direction of change in vowels was from a wide opening of the lips and of the sound channel behind the lips to a narrower opening. In the case of **a** to **e** there is a change of greater visibility to less visibility. From this we may infer that in **ben** "son" written without Aleph the change from **a** to **e** had taken place before B. C. 1600. The original **a** of the word for son we find in the Arabic **bani adam,** "sons of Adam" and **bani israyil,** "children of Israel", though the prefixed **i** in the common Arabic **ibn** has pushed out the **a** altogether through the influence of the penult accent.

We may judge from the use of **Yad** in writing **bin** to "understand" that this vowel of narrow lip aperture was employed in B. C. 1600 the tongue being in a front high position. From its omission in **min** "from", "a part" we conclude that the wide **i** formed by expanding the pharynx was in existence then. Visibility was the reason why the narrow **i** preceded the wide **i** in its appearance in the language and also why, when letters were made, it alone was thought deserving of a symbol. Of course the use of the consonant Yad as the first letter in a triliteral root would be a still more powerful reason for it alone receiving a written symbol.

In the verb **kun** to "set up", "make firm" the inserted **Vav** was doubtless the symbol of **u** in B. C. 1600. In **makon** "place" we find it represents **o**. In ken "thus" we may assume that **tsēre** was the vowel. In Hiphil **hēkin** we have the vowel **i**. The Hebrew grammarians regard **a** as the root vowel. The Hiphil formation shews if this is correct that **i** is formed by change from **a**. The direction of change still appears to be from low to high. This

being so we ought to regard the form **kun** with Vav as derived from an older **kan**, as **buz** "despise" is derived from **bazah** "despise". This again may be traced back to **man, manah, banah** with labial initials and the vowel **a**. **Banah** has come to have the special sense of building and **manah** of dividing into parts.

This process of investigation seems to point to the conclusion that all the vowels come by derivation from **a**, and so far as this it would seem that the Hebrew grammarians were right in making the preterite the base of the verb. The vowels **e, i, o, u** used in conjugating are formed from **a** by a simple physiological process. "Between **a** and **i** stands **e**; between **i** and **u** stands **o**" (1). "In **o** as in **u** the lips come into play; hence it is that these two sounds are so frequently weakened to **e** and **i** whereas the converse change never takes place". But it will appear farther on that the future and imperative may on other grounds be older than the preterite.

Each change would be brought about by an antithesis. When **a** becomes **i**, a change is effected from a low to a high position of the tongue. When **a** changes to **o** the flattened tongue and lip are rounded. From **a** to **e** is a change from wide expansion to medium contraction. When **a** changes to **u** the innermost vowel near the back of the tongue becomes the outermost one, formed by the protruded lips. The muscles in all these cases would at first act on a principle of opposition and reaction. The movement is from below upward or from behind forward.

The *third principle* of general application to all languages is that in the first instance the order of words in a sentence was that of time and nature. In Hebrew this is found where the love of inversions has not made itself felt, as in Jonah 1, 2 *Arise go to Nineveh the city the great and cry against it*. The only inversion

(1) Sayce, Science of Language.

here is that of the adjective "great" going behind the noun and taking the pronoun "that" with it. Otherwise the order is strictly natural. In I Kings 20, 27 "but the Syrians filled the country" the order is perfectly natural. The Hebrew and English agree exactly. The transposition by which the Semitic adjective was removed from its place and that which caused the transitive verb to precede its nominative were of comparatively late introduction. There is no trace of such transpositions in primeval language. The conjunction gives "the Syrians" a chance to keep their place before the verb.

The *fourth principle* is that words are natural sounds petrified in human speech, and that they are partly external and partly produced by the hands and feet. Consequently the names of the hands and feet are imbedded in many words. In Hebrew it is necessary to collect the names of the hand, and also those of the substantive verb, the words for right and wrong, the pronouns, the words for beating, supporting, pushing, making, pointing etc. in order to learn if the name of the hand exists in them to an extent proportionate to its activity. We find **yad, yod** "hand", **caf,** "palm of hand", "sole of foot", "hand" **khofen** "fists", **yamin,** "right", **semol,** "left". These may be regarded as old words for hand limited subsequently to a particular meaning. Yad is found in **yashar** "right, correct," yarah to send out, to point. The hand's action is inseparable from **yashar** and it is this circumstance that gives to the word its clear notion of correctness. The final **f** of **caf** is the **b** of the primeval root. The sense of "hollow" in **caf** is perhaps derivative. Would not the palm of the hand be very naturally used to describe hollowness? The word **yamin** is probably derived from a root **man,** for we find **aman** meaning "to support, faithful, true", and in Hiphil "to turn to the right". **Aman** is also an artificer. It is with the hand that true and faithful testimony is

borne to any fact. One meaning is to carry in the arms. Our word Amen is then a strongly assertive substantive verb. Another Hebrew substantive verb is **yesh**, in Chaldee **eth**, in Syriac **aith**. A third is **haya**. But **yad** and **aith** are one word, and perhaps **haya** may also be a derivative. Yet the existence of **khai**, "living" **khaya**, "he lived", entangles this question, for haya "he was" may be a weak reproduction of this verb, which is an imitation of the act of breathing. Such is the accepted opinion. He breathed became "he was".

In eifo for apoa "yes" "certainly" "then" and **af** "also", we have hand with a labial final, the initial being lost. These words are usually derived from **afah** "he baked, was complete". I suggest that completeness is likely to be in origin a verb of cutting which gives existence to the idea of finishing, and of circularity. Gestures of the hand are used to denote linking and consequently conjunctions usually originate in the hand.

In some pronominal forms a predication is hidden as in **ko, kemo, ken,** all meaning "it is thus, thus". These words with **ki** are best explained as formed from the lost labial demonstrative, which lingers yet in **poh** "here" and in **ma,** "what". Fürst regards **koh** "thus" **poh** "here", as one word, as also **pud** and **keud.**

The words for pointing in Hebrew will naturally be modified forms of the hand or finger which points. Finger **etsba**^{ng} yields a root **tsab** or **tab.** To point is in the Piel formation **khavvah** "he pointed", for "he breathed". Gesenius regards **ya**^{ng}**sad** he "indicated", as a variety of **yada**^{ng} "he knew", in Hiphil the causative form. We may take the root to be **dak,** the **k** having become Ayin. But ^{ng}**ud** is "he witnessed", he "said repeatedly". This would be accompanied by a hand gesture to strengthen the assertion. It

seems requisite to introduce the hand as an element whenever there is a predication. We also have **yarah,** "teach, point", formed apparently by change from **d** to **r.** It may then be regarded as the hand. The word for finger preserves the labial final **b.**

In the name for foot **regel** we have **r** for **d** and **l** is a suffix. Among verbs there is **halak,** "he walked" **ngabar** "passed", where we may view **h** and Ayin as prefixes. The verbs **ngadah, arakh** "went" also tend to show in their elements that the word for "foot" is really the same with the words to walk.

Among words meaning to **press** let us select **muts** because of its labial initial. It is the parent of about twelve triliteral roots with this meaning. Included among them are **uts** where **m** is dropped. **tsur** and **tsarar** where **m** has become **ts** by a process of change to **n, d, t** and **ts** in succession, **mangak** where the final has become a repeated guttural, **lakhats** where the initial has become **a** from **d** and the final has become a back tongue letter followed by **a** sibilant. The hand being used in pressing, the name of the hand would be very likely to form a constituent element in the early stages of this formation. With it would be combined the natural sound accompanying pressure. The action of the hand appears in the connected group **mŏod, koakh, khayil, khazaq** all meaning "strength" or "was strong". The root of the group appears to be **mad,** and the **ts** of the group, as in **mutz** meaning to "press" is derivable from **d.** There is no difficulty in supposing the two groups to have been originally one with the action of the hand prominent and inseparable. The change of **m** to **n** is known from such roots as **mot', nut',** both meaning to "move" and both having the **teth** form of **t,** an indication that the change from **m** to **n** was comparatively late.

The *fifth principle* of universal application is that the hand,

the demonstrative, the verbs of pointing, of hiding, of striking, and other acts all received their names in succession from the imitation by the vocal organs of a common root or sound. Physiological conditions made the imitation a single root at first. In the Hebrew the hand, and usually the demonstratives, are biliteral words and this shews that they are very old. Thus **yad** "hand", **mah** "what", **caph**, "sole, hand, palm of hand", seem never to have been triliteral and **map** or **bap** is the root from which they have been formed by letter change. If we take the verb "to hide", an operation in which the hand is sure to be exerted to carry out the intention of the mind, we find **taman, tsafan, kaman, khafas**, among the words having this meaning. The labial initial **m** or **b** has appeared as **t** or **k**. The labial final is **m** or **f**. The third letter is not originally radical. In the age of triliteral formation **n** and **s** would be added as distinctive marks of special meanings. In this way we learn that the crystallizing process by which **yad, mah, poh, caph** became accepted words was anterior to the time when the triliteral words meaning "hide" entered the Semitic vocabulary as accepted roots. The sound **kh** is Heth a distinctly back tongue letter. That **tsafan** is the same word as **taman** "to conceal" need not be doubted when it is remembered that **tama**^{ng} with Ayin means to be dark. **Kanas, kanaf** both signify to "cover". Gesenius and Fürst omit the derivation of **kafar** to "cover, to make atonement", from **kaf** "the hand". I suggest this as a very natural etymology coming down from the time when the hand was used to express the idea of hiding. The idea of bending and bent shape is much mixed up with this root, **khafats** with kheth is "he bent" while **khafaf** is "he covered". **Kafaf** is he "bent". So also is **kafah.** In Aramaic **gefo** is the "arm" as well as "wing" and "bending". Thus the wing obtained the name of the arm because the arm was used in the language of gesture in describing it.

To bend is well expressed by the action of the arm and just as well by the bent finger. We find **ngabhath** and **kafah** meaning "he twisted" and "he bent".

The formation of derivatives from **kaf** embraces processes belonging to the triliteral age. Before that age the root **yad** "hand" had already formed **yesh** "it is", and during the triliteral time **yashar** "upright" came into acceptance. Later the final **d** of **yad** changed to **k** and a prefix **ts** having been introduced **tsadik** "right" was formed.

Every new word was moulded upon some old one as its basis. The Semitic roots thus viewed began in unity and were slowly formed by successive additions, slight losses, and gradual modifications till they assumed their present shape.

The sixth general principle is that there was a labial period, a dental period and a guttural period in the development of words. To understand the law of growth of the Hebrew language it is necessary to enter on the study of the biliteral roots. **Em** "mother" (formerly **am**) **ab** "father" preceded other words and objects being some what easier to image to the mind and having a natural precedence. Names in the oldest stage were infantile and language perhaps began with the talk of little children. The words **im** "if", **af** "also", are adverbs and conjunctions, and are relics of a primitive word for hand. **Mi** "who" **mah,** "what", **poh,** "here", are the remains of an old demonstrative. **Mai,** "water" may be named from motion. **Bo,** "come", is a demonstrative. **Bam** is "high". **Ben** "between", **man,** "a part", differ little from **bam** which would mean "cutting in two". **Pa** "to blow", **pam,** "swallow", are imitated from natural sounds. So also is **pum** "mouth", a pierced opening. If it be granted that labials are the oldest consonants such words as these must be primeval.

In the dental period the arts would grow up on the deltas of the Euphrates and Nile and words expressive of the ideas of early civilization would come into use. **Ban** would obtain the meaning of building. **Man** meant dividing. **Bad** had the same sense. **Nebel** "psaltery" and **toph** "drum" would on this hypothesis be musical instruments very early in use. **K** and **g** are found in kinnor "harp" and **ngugab** pipe Gen 4, 2, shewing that we cannot go far in our selection of words of primitive civilization not containing gutturals. Among the cardinal numbers only **shĕne** "two" **sheloshah** "three", **shissha** "six" **shemona** "eight" are without gutturals. Among biliteral words we find **yad** "hand", **shin** "teeth", **din** "to judge" a verb of cutting from **bin, dur** to "revolve", "circle", **dud** "a basket" and "a cooking pan", **dad,** shad and tad, three words all meaning "the breast", **dam** "like", **dam** "silent", **dam** "blood", **dal** "hanging down".

In the guttural period we find the remaining cardinal numbers, but if we consider the meaning of **khad** "one" which in Hebrew has a prosthetic **a** it is very probably derived from **bad** "alone". The word **ngeser,** for "ten" is probably **tseror** a "bundle" (1). The word means in this case "bind". The prefix **Ayin** is of late origin. The number ten is a limitation assigned by the intellect in the age of budding civilization to correspond with the number of the fingers. The bundle contained counters used in primeval arithmetic. In Chinese **zhip,** "ten" is to bind and **decem** in Indo European is also probably connected directly with **ligo,** "to bind", though Curtius associates it with digitus "finger" and explains the name as the number of the fingers. **Tsarar** "to bind" is **tsur** "to press". **Ts** is the **s** of **eser.**

(1) Sayce, Assyrian Grammar, derives ten "from asar "bind" referring to the combination of the two hands". This supports my view.

The labial period was so to speak the infantile period when the sounds were attempts at imitation such as those of little children The dental period was the first great period of civilized development. The third period when guttural letters were added was the time when the vocabulary was completed. During all this time new words were being made from old ones, each as a rule needing a differentiating sound to mark it and give it permanence and validity. At first **ba, ab,** or **ma, am,** were perhaps the only syllables. **B** and **m** would be added by repetition conscious or unconscious during the labial period. Then in the dental period a considerable variety of biliteral roots would be formed. There is no good reason for assuming that triliteral roots were first in order and biliteral roots formed from them. The hypothesis that triliterals were formed from biliterals is more probable. **Ilan** Chaldee for "tree" is **yilono** in Syriac and **eloth,** a plural form in Hebrew. The root then will be **el,** which also means "strength", "stag", and "ram". Each of these animals has a tree-like growth on its head, with an upright direction. The Chinese shu for "tree" is so named from uprightness. So I suppose it to have been in the Hebrew. The hand stretched upward would indicate this in the language of gesture and hence the similarity between **yad** and **ail.** The hand would receive its name first and the tree from its resemblance to a hand stretched upward with its fingers outspread would receive its name from the hand. The other word for tree **ngēts** would seem to point to a guttural initial, but this would be only a substitute for an earlier **d,** or **b.** As the names for tree are easily reducible when they have a triliteral form to a biliteral, so it would be in the case of other roots.

In the labial age of language the biliteral mould of roots is nothing more or less than the union of a consonant and vowel.

Physiology if appealed to says that time and rest are necessary to a syllabic sound. The narrowness and contraction which belong to consonants render them incapable of syllabic completeness. Two elements generally speaking make a syllable. The consonant gives it a limiting circumference. The vowel gives it space. The result is the biliteral root in its earliest form. The next step in development is to give to the vowel a limiting consonant at the beginning as well as at the end, thus forming a closed syllable and this is usually done by repetition. The need of a new word would be the occasion for doing this. With the vowel **a** and the consonants **b, m** only, we should then have 12 syllables. With the addition of **o** and **i** we should have thirty six if we chose to use so many. But a time would arrive when **b** would become **d** and **m** would become **n.** When a new word was wanted the change to **d** would be seized on as furnishing a suitable mark and this would be the commencement of the dental period. **D** would become **l** or **z** at different times and in certain localities. When the new sound had obtained currency its great convenience would help to spread its use. Again a time would come when the advance of mankind in thought and civilization would not be satisfied with biliteral roots, nor with dental and labial sounds. Guttural sounds and triliteral roots would force their way into use. The Semitic family of languages on arriving at this stage, by adopting the triliteral mould of root separated itself from other families, but when in the biliteral stage, it would not necessarily be separated from them.

The age of triliteral roots was also the age when Semitism assumed a family character. Previous to this the Semitic race would be distinguished from the Chinese and the Indo European races by much less important differences. As we go back in time the discrepancies perpetually become fewer till they ultimately disappear.

The seventh general principle to be applied to the examination of the Hebrew is that nasals and sonants precede surds. The more sonorous a sound is the better for its success in being accepted. In the formation of the Semitic vocabulary this cause for the priority of sonants and nasals would operate as in other languages. On the whole radical letters are predominantly sonant and servile letters are predominantly surds. So far is this true that we may regard the surd character of servile letters as a fact which supports the view that sonants are much older and that consequently surds are derived from them by letter slipping. As to nasals they were beyond question primeval because they only require the nose passage to be open and a check to be made by the lips or by the tongue. The only serious matter to be explained regarding them is the absence of the full **ng**, and the early absence of the slight **ng** known as Ayin. Perhaps that absence is accounted for by the mode of forming the letter **ng** being concealed from view. This seems to be a cause of the late occurrence and rarity of this nasal. Then as to the existence of surds as derived from sonants we find for instance with the meaning to "scatter" the following words **badar, bazar, barats, parad, parats, parat, parash, paras, puts, push.** These forms would appear all at different times and in different places. **Bad** "to divide, strike, separate", is the root. The sonant **b** becomes **p** or **f** and the second sonant **d** becomes **z, r, ts** and **sh**. We are at liberty by our sixth law to view **u** as a change from **a**. We cannot prove absolutely that **b** was not formed from **p** by adding voice, but we may say that the formation of **p** from **b** by dropping voice is more likely because in a civilized period surds are as good current coin as sonants on account of the increased quickness of the ear of cultured persons in detecting sounds. The most civilized races not only make many new words but have the greatest variety

of sounds on this account.

When Hebrew literature commenced the surds had already obtained a very full development so that in dictionaries there are many more words with the surd initials **p, t,** etc. than with the sonant initials **b, d,** etc. Further there seems to be as much prevalence of surds in old Hebrew as in later types of the language. The change from **b** to **p** and **f**, of **d** to **t** and **th**, of **d** to **ts, z, s, sh, l, r** and the change of **g** to **k, h, ch,** would therefore all have taken place before B. C. 1600. We have found that the course of evolution was different with the vowels. The consonants had become very numerous while the vowels were comparatively few. The language in its early stages spent much energy on the multiplication of consonants and later exerted its force rather in the multiplication of vowels. This was partly because consonants are more definite and distinguishable.

Some changes from sonant to surd are immediate. Some are through links which may be lost or may still remain. **D** may change to **z.** It may also change to **t** or **th** or **r** or **l.** In passing to **ts** there would be a missing link **t.** So in passing to **s** and to **sh** there would be also a missing link **t.** It is not necessary to say regarding **palal** and **palas** which come from a root **pad** that the suffixes **l** and **s** were appended as they now are. For there might first be a suffix **d** from which they could be formed by tongue slipping. Probably the first change was a repetition of **d** making **padad.** This **d** became **l** in one age and **s** in another taking at the same time some modification of sense marked by the new form. The missing link seems to be a final **d.** But the habit once formed of sounding **l, s,** or **r,** at the end of some biliteral root, it would without hesitation be added by certain speakers to other roots. Just as they said **badad** by repetition of **d** they might say **qat'al** by imitation of **badal**

without its being requisite for **l** to come from **d**.

The root for hanging and swinging on a hook or otherwise would be formed from the noise of collision. The sound would first be **bad**. In Semitic speech it occurs as **dalal, zalal, talah, talal, s'ālāh, palas', tālā** (alef 3rd rad.) These are all variations of one root. **B** has become **d** and **p**. **D** has become **z, s'** and **t**.

In the words for scattering and separation we have examples of change from sonant to surd in **parad, pazar, parats, parash,** from **badar, bazar.** So also **parzel** "iron" comes from **barzel** "iron".

With such examples before us we need not doubt the fact of interchange between sonant and surd. Then if we refer to Chinese we find there incontrovertible proof that the direction of change is from sonant to surd. It is a change which takes place in the larynx entirely and may be described as caused by the law of least exertion. The muscles do less work when the voiceless checks take the place of the voiced checks, and by culture the ear of the nation had, when the time came to use surds, become sufficiently practised in distinguishing sounds to allow of this. Besides, new shades of ideas needed words to mark them and the formation of surds from sonants was one mode of supplying new words. The cause was not only economy of energy.

The change from **b** to **d** being once established, that from **d** to **t, z** to **s, g** to **k** would be easy and would follow naturally as an extension of a habit already formed.

The eighth general principle to be applied in the examination of Hebrew is that in the evolution of words the physical precedes the intellectual and the moral. If we adopt the usual explanations of **zamam** and **chashab** "meditate", both are derived from the idea of binding together. **Yashar** "was straight", is made from the hand stretched out to indicate straightness. The **d** of yad is changed to

sh, and **r** is added to fill up the empty place in the triliteral root. To think is expressed by **amar belibbo,** "he said in his heart". In **amar** the middle radical **m** indicates a movement of the lips when beginning to speak. The vowel **a** is the opening of the mouth. The final **r** is a suffix taking the place probably of **d** and ultimately of a primitive labial letter. To form a phrase like "speak in the heart" from this physical commencement is the work of the mind. **Baqar** to "investiga'e", "to seek", is a verb of cutting and is used for ploughing. Oxen it is said are called **boqer** because they are employed in ploughing. Morning is beyond question called **boqer** from the breaking out of the light on the eastern sky at dawn. Cows and oxen are more probably called **boqer** from the cry of the animal imitated. The idea of seeking is quite naturally derived from repeated acts of cutting and beating. So we find **gashash** is to "seek by touching" where touching is the physical root and seeking the intellectual derivative. **Khan** "favour" is from bending, the head being bent by the superior person when some grace is bestowed on an inferior. This is one form of outward expression for compassion felt in the heart. The word **rakham**, "loved, pitied, the lower viscera" and its related word **rakhaf,** "brooded", with perhaps **nacham** "comforted" are all naturally derived from a word "to cover". This might originally be a word for the hand such as **kaf**, because the hand is used in covering objects for their protection.

The ninth general principle in languages is that tones, accents, rhythmus and all subjects connected with prosody are evolved later than the words and laws of order which constitute etymology and syntax. This part of the evolution of Hebrew was specially advanced when music was introduced into worship by David on an extensive scale. The deliverance of Israel from Egypt and the

wars with the Canaanites gave occasion for the composition of poetry. Rules of versification came into use then and gradually assumed a more elaborate shape. These elements in languages are comtemporaneous with literature, and especially with music and poetry. The creative power of Semitic men first formed triliteral roots from their biliteral bases and formed Semitic laws of syntax from the old natural order which was followed in an earlier time before their separation from the common Asiatic stem. When this had been done the construction of verb paradigms proceeded, and the Assyrian, the Syriac, the Arabic, the Hebrew, with other grammars arrived each at the point where its favourite ideal was realized. After this came the period of history, legislation, music and poetry. In the Semitic languages the vowels retained their developing power till quite late and were therefore much used in distinguishing moods and tenses, nouns and verbs. In consequence of this changeableness of use in Semitic languages, the vowels were kept still longer in a plastic unfixed condition. New vowels were formed quite late which was not the case with the consonants. This seems to be the reason that in the period which properly should witness only the development of rhythmus and accents we find that there was also in Hebrew a considerable growth of new vowels.

The tenth general principle is that in almost all roots there is a union of sounds and a union of thoughts. We are not to expect unity in a root. Each word is the result of a combination of factors. There may be one, two, or more sounds, and one, two or more ideas brought into close brotherhood in any one word like the strands of a twisted string or the many vibrations in one musical note. This peculiarity arises from the complexity of the elements present to the mind when thinking. Several hundred voices in a

choir harmonizing perfectly produce one sound in the ear. Each word then may be a sheaf of sounds and thoughts and these component parts can often be taken to pieces and distributed to their respective origins. Each word contains in it the thoughts of past generations of men as well as of those who now use it. It is a mental fossil in which we read the speech of other times and from which we learn what ideas were current among the ancestors of the nation that uses the word now. The language when made the medium for a literature, exhibits in the main the same imaginative and logical characteristics which are shewn in its earlier development. Hence words are composite because they are perpetually receiving new deposits of thought so long as the language to which they belong remains living. The Mosaic legislation profoundly influenced all words connected with sacrifices. All such words would therefore take in Hebrew new shades of meaning, and at the same time they would undergo letter changes modifying their pronunciation and securing them a place in the national vocabulary.

Words have specific meanings before they have generic meanings. Gradually they become generic because they subdivide. Each subdivision tends to make the mother word more generic than it was before. Every genus then was at first a species and became generic only when it had given origin to a sufficient number of subdivisions to constitute it a genus. Arrived at this point a word contains many more particulars than at first. The mind looks upon each generic word as containing in it all its species. For example **kanaf,** "bird" is derived from **canaf,** *to* "*cover*", a verb from which **kanaf** "wings" is formed. In the Arabic we have **kanif** a "veil or covering" and **kanaf,** "side, margin, shore", so that there is also in this root the meaning of deflection to one side. This one-sidedness comes from wings and the hand used in gesture to

describe thought. The letter **N**, in the Chaldee **gaf**, "side", the Syriac **gabo**, "side" and the Heb. **agafin**, is wanting. But **kenafayim** "wings of an army" has it. There is then fair ground to trace **kanaf** in the first instance to hand, and to explain the root in the sense wing as originating in hand gestures. At each step the word has a wider meaning till it denotes birds. New ideas and new variations in sound are quite easily added at each successive stage. So with **tsippor**, "sparrow", and bird generally. The root **tsafar** is to "twitter", to "pipe", to "croak". It is taken to make a name for frogs and for sparrows, and is an imitation of the call of these animals. At first both initial and final might be labial but in Hebrew the root is **tsap**, and we cannot certainly tell when the imitation began. It might have been in the labial or the dental period.

In the first instance we have the hand, the act of covering, wings, one-sidedness, all embraced under one word **kanaf.** **N** has changed places apparently with **b** and if so the root becomes **cab** which is in fact **kaf** "hand". We have khanaf in the sense of "to veil" where **kheth** takes the place of **caph.** The idea of deflection is seen in **gefen**, "vine", which like **vinea** and **ampelos** means the bending or winding plant, and in **gefen** we have the labial letter in its right place, and the **n** a suffix as it is in so many instances. If however **n** has not changed places with **b**, we may adduce the Arabic **janah**, "hand, wing of birds, arm", as proof that **gan** is a root meaning hand, though less common in that sense than **kaf.**

In the other instance **tsippor** we have imitation of a natural sound. The arabs have **sifrud** for nightingale and **sufar** "whistling" as well as **saffarat** a tube sounded to call asses to water and to decoy pigeons. Thus many meanings are sheltered under the banner of a common root, and each has its particular pronunciation sufficient to serve as a distinguishing mark for it.

(1) From *amphi* "round" *eluo*, "roll round". Pott.

CHAPTER III.

EVOLUTION OF SOUNDS

The Hebrew vowels may be seen in their places in the following table which is like one containing the vowels of various languages in "Visible Speech" p. 94. I have used *extended* instead of *mixed* which is Mr. Bell's word, and *close* I have taken from Mr. Peile. (1). Evolution begins at square 1.

TABLE OF HEBREW VOWELS.

		Close.			Wide.		
		Back	Extended	Front	Back	Extended	Front
Unrounded	High			Khireq i in marine	[3] io in motion	[6]	[9]Short khireq i in pin
	Middle	u in sun	E in que Fr. zeit Ge.	Tsere a in day	Pattakh [2] a in mask	[5]	[8]Segol khatuf e in tress
	Low			Segol e in sell	Qamets [1] a in father	[4] e in err	[7] Pattakh khatuf a in fan
Rounded	High	Shureq u in pool		ü in über	Qibbuts u in to		
	Middle	Kholem o in home		u in une	o in go		eu in jeu
	Low	a in all		eu in jeune	Qamets khatuf o in on		

(1) Introduction to Greek and Latin Etymology, p. 83.

The thirty six places for vowels are necessary to register the sounds of modern languages. The evolution of vowels would proceed, let us say from **a, i, u.** The table of thirty six places is gradually expanded from these three. A is the open mouthed, wide, back, vowel. I is the front vowel of narrow aperture. U is the rounded vowel. In triliteral Hebrew these three vowels are the basis of pronunciation. Since the paradigms were developed after the triliteral roots were formed, we may take the three chief vowels of the biliteral period to have been these three with **o** represented by Ayin. Aleph later on came to represent narrative. **I** is the vowel of intensity of action. **U** is the sign of the passive. But this is anticipating.

So far as we can now state the probability of things, **a** and **i** would be in the biliteral period the only occupants of the unrounded squares in this table and **o** and **u** the only occupants of the rounded. In Hebrew written with vowel points there are in all twelve vowels represented and these are all given in the preceding table.

At the time when the vowels were first applied by the Semite race to make tenses it seems beyond dispute that **a, i, o, u,** were the prominent vowel sounds and were used as a part of words as in all languages. They were at any given time as much a necessary part of a word as the consonants, but as they change easily they were afterwards applied by the Semite race to denote tenses and modes. This is just what we do ourselves. We change man to men or fight into fought and use the change in the vowel to mark the plural number or the past tense as we please.

In the 7th century the vowels were twelve as in the table. At that time Qamets and Qibbuts were both **o.** And their names both denote closing. We must conclude that the Syriac sound **o** for the modern Hebrew **a** has a very considerable antiquity But

in Old Testament times Qamets was **a**. In **ab** "father" the sound seems never to have changed. In **ēm** "mother" **a** has become **ē, Tsere,** a vowel of moderate aperture. This is a very ancient change. It indicates that the direction of movement was upward and forward. In the case of consonants it is from without inward. In the case of vowels the rule is that change shall be from below upward and from within outward. The reason of this is probably that **a** was the oldest vowel. Speech begins with a wide opening of the mouth.

Every vowel is a sound in a transition state. It originates in the vowel preceding it, and gradually changes into the vowel which follows it. **A** is the starting point of evolution for all the other vowels. In the paradigms we seem to see the vowels formed just as if **a, i, o, u,** were by a simple process evolved from **a**. But we have need to step carefully here. The prefixes being older than the suffixes the future is perhaps older than the preterite. So also is the imperative very old because it is often merely a foretelling of the future. The mind does not care to keep the imperative and future very distinct. Hence the question, which of the vowels were in the paradigms of Hebrew verbs first in their evolution, becomes a complicated one and is more fully discussed hereafter. (1).

According to theory Qamets is the fundamental vowel from which others proceed. The commencing point of evolution is at the lower left hand corner of the square of the nine vowels marked wide. The movement when a change of vowel occurs is upward to the **io** in motion or to Pattakh, diagonally to Khireq in the front, or horizontally to Pattakh khatuf, or the **e** in err. That is to say, Qamets changes to one of the vowels in squares 2, 7, 4 or 9. If at the same time the back expansion of the mouth and throat cavities

(1) See chapter XI.

is reduced the new vowel may become Segol, Tsere or long Khireq in the square of the nine close vowels. If again the lips and mouth become rounded at the same time, the vowels become Qamets Khatuf, short Kholem or Qibbuts, if the back cavities are in a state of expansion, and long Kholem or Shureq when that expansiveness ceases.

This square of thirty six places is really a square of nine. The nine places are required because the mouth has actually a wide, moderate, and narrow aperture when vowels are being pronounced, and the tongue and palate approach at the back or in front, or there is an approximation at two points, the back and front. The term *extended* may be used in the last case. In Hebrew six places are really enough or twelve in all. It does not appear that the vowels become more varied in other Semitic languages, than in Hebrew.

In a verb with three consonants as **qatàl** in the preterite the first takes Qamets and the second Pattakh. The reason of this is that the final consonant involves a movement of the tongue upward and to prepare for this the upward movement of the tongue in the **ă** preceding is very convenient, the more so as the accent, which is on the last syllable in Hebrew in most words, needs a muscular force in the larynx. The final consonant requires energy to be used somewhere near the palate, upper gums, or upper lip. It is therefore not convenient to spend energy in keeping the mouth open and the tongue low, as when Qamets is sounded. When however the third letter in the root is Aleph or He, Qamets is used, there being no consonant to make a demand on the store of energy at the mind's disposal.

When the conjugations came to be formed with the moods and tenses, the Semitic mind took advantage of the principle that vowels may interchange, and formed mood, tense, and conjugation

marks with the help thus obtained.

The vowel A being suited to narrative became the past tense. Its opposite is Yodh and the vowel **i** became the mark of the future because of this opposition. Another mark was needed for the imperative attitude of the mind **qtol.** A strong contrast to the descriptive **a** was secured by adopting the vowel **o** and forcing two syllables into one. Sometimes short **a**, that is Pattakh, was used as in **kebad** "be heavy", At other times Tsere was preferred **ē.** The passive is a reversal of transitive action and for this the mark adopted was Shureq **ū,** because the eye sees the lips protrude in the rounding process (1). The vowels Tsere and Segol denote variation of a more limited extent, as in some conjugations in the second syllable of the future, in the imperative, the active participle, the infinitive.

In language each phenomenon is capable of explanation because no mark used for a shade of thought can obtain prevalence without a sufficient reason. The preterite received the open mouthed back vowel **a** as its mark, because it suits the historical tense, which lacks intensity and peremptoriness of tone. Brevity on the contrary suits the imperative and Shva takes the place of a full vowel. A sound with will and emotion inherent in it is pronounced with the lower jaw up. In the absence of will and emotion the lower jaw falls, because nerve force is not applied and the muscles are lax. The vowels of Hebrew were evolved twice under these conditions, first in the age of agglutination and afterwards in the age of inflection. When the vowel **u** was used to make a passive, gesture manifestly had a share in the process, both in the protrusion of the lips in pronouncing the vowel **u,** and in the drawing up of the

(1) Sayce. Assyrian Grammar p. 51. In Arabic every conjugation but Niphal and Ittaphal possesses a passive formed by means of the obscure vowel ŭ.

under lip. It is in strong contrast with the low back-drawn **a** of the past tense. In Indo European languages we find sing, sang, sung, varying in a way so like the Semitic, that probably here the same physiological and mental causes led to the choice of **a** for the past sense and of **u** for the participle and the passive.

Professor Sayce says the Assyrians conceived that a sufficient distinction was made by a change of vowel. "They set apart **isaccinu** to express future time under the influence of a kind of unconscious instinct (1). Without the vowel **u** this form had a present meaning". I propose to account for this unconscious instinct by appealing to the fact that there is no greater change than from the wide aperture of **a** to the narrow aperture of **u** with the rounding and upward movement of the tongue which also takes place when that vowel is pronounced. As in the early stages of language the gestures of the mouth were very freely used to convey thought in making roots, so later on the Semitic verb in many ways shewed how physiological change may be used to make tenses and moods. We say "he rang a bell" or "the bell is rung". Here **a** and **u** are physiologically adapted the one to mark a past and the other a passive participle. If however the physiological adaptedness here observable is real it accounts equally well for Teutonic and for Semitic inflection. The narrative tense in both prefers the most wide mouthed vowel. And in both also the passive takes **u** as a fit symbol of inversion. Because a change of places between subject and object is the chief feature to be figured in the passive voice and no change is greater than to a rounded vowel of narrow aperture.

(1) Sayce Assyrian Grammar p. 69. In p. 53 it is said "the vowel *a* more fitly than *i* marks a continued period of time on which the mind dwells. *I* is a weakened *a*" "The apocopated Aorist expresses urgency and command" "A telic sense prefers in Assyrian the vowel *u* in a perfect or pluperfect tense". "The aorist of motion answers to the accusative of nouns and signifies motion towards. Both have *a*".

The evolution of the vowels in Hebrew has been effected under the control of the following principles:

1. Mental emotion combined with intellectual effort in the first instance, caused the utterance of the **a** in father, which combining with **m** or **b** made a word. Thus possibly the earliest human word was formed.

2. The mouth, while open to sound **a**, was pressed by the muscles of the tongue and by those controlling the lower jaw, urged to activity by a new and more intense emotion of the mind which found expression in **i** when the voice passage became narrow. The weaker thought took **a** and the stronger **i**. Contrast in mental states succeeded in rendering these two opposite vowels a permanent part of human language.

3. Another contrast and another emotional impulse originated **u** which is also opposite to **a**. While **i** has **a** narrow voice passage **u** has a protruding lip in addition. Thus **u** may be opposed to **i** as well as to **a**. New mental emotions and the necessity felt to increase the compass and efficiency of speech worked incessantly till the three chief vowels **a, i,** and **u,** become thoroughly established in use.

4. In the first ages the evolution of vowels, caused by mental emotion and intellectual activity, aided in the production ot words and they were not then at all employed in distinguishing moods and tenses. Vowels were not at that time marks of the causative, or passive, or preterite. They were used to distinguish words, and would be prominent in marking contrasts in the meaning of opposite terms, such as adjectives and adverbs, which naturally fall into pairs.

5. Later on in time, when the vocabulary was well established and the vowels could be spared for new tasks, they were called to

help in the formation of the paradigms and to indicate changes in tense and mood. Whenever there is an antithesis in idea and in mental attitude it is convenient to mark it by a change in vowel. The mind in controlling the vowels wields a weapon of great and varied power Every modification indicates a new state of feeling in the mind. It is thus that the change from **a** to **e, i, o, u** is accounted for. The new vowel is the audible sign of the new idea, and is the result of muscular action responding to nerve force.

6. In the triliteral age many causes concurred to stimulate the growth of short vowels. A syllabic accent, the repetition of a consonant, the addition of syllables and letters to words tended to multiply vowels. It is likely that when Hebrew was first written with points it had more vowels than at any former period. Yet it must not be forgotten that short vowels may die out and become amalgamated with others, and again after a time reappear through the operation of new causes. When new vowels are formed they should as a rule indicate some change in idea. But there are cases of simple decay and rejuvenescence accompanying no particular modification of sense, the mind being weary and indolent. It must also be borne in mind that short vowels are less visible than long vowels from brevity and from the expansion of the back of the mouth. Hence they are not so old as long vowels.

7. The physiological development of vowels would naturally be slow. There was in early times a modulating influence, the imitation of natural sounds, and the effect of men living in society and working in companies (1). The faculties are quickened by companionship and the influence of leading minds. In these circumstances the change of vowels with other modifications in

(1) Max Müller Science of Thought p. 300. Noirè bases language on the rhythmical cries uttered by groups of workmen and finds its origin here.

language would be hastened. In consequence of this the development of new vowels would neither be so slow as physiological forces alone would make it, nor so fast as might be expected when we think of the stimulus to man's faculties coming from nature and from society, from historical events and commercial intercourse. There are ages of slow growth and of rapid development. In the biliteral, that is the agglutination age, it was slow. In the triliteral age and especially when the inflections were in course of formation the vowels would develop more quickly. Civilization and thought combined with moral and spiritual energy would affect the race powerfully and quick changes would appear in the language.

The *evolution of consonants* proceeds from the labials **m** and **b** inwards to the dentals and palatals, the sibilants and the gutturals. This evolution would take place in the early stages of Semitism but vestiges of it remained in the days when Hebrew was a living language, in Judea.

Note. Usually in Hebrew grammar it has been recognized that Qamels, Tsere and Kholem may be long by nature or tone lengthened: also that when tone lengthened they proceed, long *a* from short *a* or from segol, long *e* from short *i* or segol, long *o* from short *o* or segol. There are five grades of *a* ending in Shva, seven of *i* and *e* ending in Shva, and eight of *u* and *o* ending in Shva. This shews how prominently the evolution of Hebrew vowels presents itself to each careful grammatical investigator. See Rodiger's Gesenius p. 24 § 9. 12. But it ought rather to be maintained that short vowels are produced from long vowels because the more sonorous sounds came first.

TABLE OF HEBREW CONSONANTS.

		Nasal	Shut	Extended inward or mixed	Divided	Divided and extended	Aperture contracted	Aspirated	Arabic Extension
Breath	Throat						h		
	Tongue back	Sound of Ayin	k	Kh Kheth				Qoph Ar.kh	
	Tongue front			Sh Shin					
	Tongue point		t	Sin Samekh		th		Teth	tsh
	Lip		p		f				
Voice	Tongue back		g Ghine						
	Tongue front			z			y		
	Tongue point	n	d	zh	l	dh	r	Teth	dzh Jeem
	Lip	m	b		v		w		

The origin of evolution of the Hebrew consonants is at the lower left hand corner of this table (1). The other consonants did not grow up independently. They all originated by change from **m** to **b, v, p** etc., or from **m** to **n, d, zh, z** etc. Mankind did not

(1) The idea of this table is derived from Bell's Visible Speech, from which also I have taken many descriptions of sounds.

pronounce **n** or **d** at first, but came to pronounce them by change from **m** or from **b**. At least such was the general rule. So also with all the letters beyond **n, d,** and **b** in the Table. For example, **mut** and **nut** both mean "to be moved, move to and fro". **N** is here evolved from **m** (1). For further examples, see Appendix. The consonants followed each other into use till they spread inward from the lips back to the throat. **B** was in use before **d** and **d** before **r** and **l**. So also **d** and **t** were in use before **z, zh** and **s, sh,** and on the whole **g** and **kh** would be in use later than letters pronounced with the help of the teeth.

The principles observable in the evolution of consonants may be summed up in the following manner:

1. The first step in the evolution was to shut the nose tube and change **m** to **b,** but a process of variation soon commenced in another direction. The tongue closed the voice channel at the teeth and produced **n.** These two lines of evolution were caused by an unconscious effort to make variety in the sounds to be used in wordmaking. Here we see the uvula employed in shutting the voice passage at the teeth.

2. The two new principles, the omission of voice to make surds, and the division of the voice passage by a centre check were introduced, and by these helps the consonant **b** formed **p, v, f,** and **d,** while **n** formed **d, l, r.** When the new consonant was introduced it would often be *as a contrast* to the old.

The change from **b** to **v** is not doubtful because *dagesh lene* when omitted from **b, d, g, p, t, k,** indicates that the sound becomes divided or, as it called in Hebrew grammar, aspirated.

The change from **b** to **v** and **p** is recognized in Lexicons. That from **b** to **d** is less obvious. But it is supported by many

(1) For further examples see Appendix.

Examples. Thus **bin** "distinguish", **bēn** "between" become **dun** "decide a law suit." The idea is that of cutting. **Duq** "to divide, dissolve, fall to pieces" is nearly the same as **baqaq,** "depopulate, lay waste". At least both these words would very naturally be derived from verbs of cutting. The identity becomes plain if we assume the change from **b** to **d.** The Arabic **biz** "nipple" is in Hebrew **dad,** and **shad,** of which **dad** is the older form. The Aramaic is **tad. Bal** "heart" in Chaldee, is the beater or vibrator, while **dal** in Hebrew is "waving to and fro as a door on its hinges". **Daleth,** "door" is thus formed. **Balah** is "he trembled". While **dalah** is to "hang", **balah** is "to fall". Hence the root of **dal** is **bal.** Through the infantile change of **b** to **d** in many languages the word for father has an alternative initial **t** or **d** as supplementary to the usual word with a labial initial **b** or **p.**

3. The making of consonants having reached the teeth, the process was facilitated here by the continuity of the palate and by the flexibility of the tongue which approaching it in different parts, forms **z, s, sh, th, dh.** These may be called extension letters, as being extended from the teeth along the palate. The loudness of their sound is in proportion to the narrowness and length of the voice tube made by the tongue at the points where they are formed.

That all these extension consonants came from the shut consonants **d** and **t** seems altogether probable. Thus in Chinese the genesis of **s** is from **t** or from **z** and that of **sh** from **zh,** and both come ultimately from **d.** Physiology is the cause of this and the tendency to variation operates perpetually. This tendency is limited by the conditions. Mere extension is easy and its being so renders it likely to occur. The evolution of **l, r, z, s, zh, sh, th, dh** are like the spreading of the roots and branches of a growing tree. **D** and **t** are the germs from which they proceed.

4. Another leap occurs and the guttural group is formed. The tongue being full of nerve and muscle its parts sympathize one with another. The activity of the front part of the tongue in forming consonants cannot fail to kindle a sympathy in the back part of the same organ. The back part in contact with the soft palate is fully ready to make consonants there also. The consonantal Ayin seems to have been evolved from the vowel represented by Ayin in this way. A tremor of the uvula accompanied the action of the back of the tongue in shutting the way. The consonantal Ayin was the result. The consonants **g** and **k** were formed by simple contact. The principle of extension adds Kheth, a guttural **ch** formed by contracting the voice tube. The extension is in this case outward from the point of contact instead of inward as when extension from the teeth was in question. This outward extension is like the Sanscrit formation of **ch** from **k** and in Chinese the change from **ki, kü,** to **chi, chü.** The prompting cause is in the continuity of the hard and soft palate up to the point where the back of the tongue forms **k** and **g.** Greater intensity marks the **ch** of **auch** than that of **ach!** and **nach.** The tube is proportionally narrowed and a shrill sibilation is the result.

5. Aspiration probably originated the consonants Qoph, and Teth, for it is now found in Arabic. An aspirate was inserted after **k** and **t** in these cases. So also **s** was inserted after **t** to make Tsade. These are really compound letters. There is in Semitic languages a strong tendency to drop vowels and pronounce consonants in quick succession without them. The short vowel Sheva is used to indicate the absence of a vowel. The vowels in such cases being not wanted came to be used as symbols of tense, mood, and voice. The appearance of aspiration seems to be connected with this tendency to the agglutination of consonants, which we find for

example in **Qtol,** "kill", imperative and infinitive and in **anth,** "thou". The **s** and **h** are both inserted for the purpose of adding intensity to the idea. But if we view **h** after **k, h** after **t,** and **s** after **t,** as examples of agglutination of consonants, we must place the period of this coalescence before the triliteral period because in that period they counted as single consonants. In Greek tragedy B. C. 450, **t** before aspirated words is changed into **theta.** This shews that the sound of **theta** at that time was **t** and an aspiration, and not the English **th** of modern Greek.

CHAPTER IV.

THE BILITERAL ROOTS.

There are in Dr. Julius Fürst's Hebrew and Chaldee Lexicon about 12000 words arranged under about 1900 triliteral roots. Yet among these triliteral roots many repetitions occur and the number of real roots is far less than this. Of biliteral words there are if we include monosyllabic triliterals such as **bin**, **lun**, about 1200. If we omit the monosyllabic triliterals there are about 300 biliteral words; but we need not omit them. We are at full liberty to take the monosyllabic triliterals and regard them as biliterals, the second radical being counted as a vowel.

Let us roughly assume that there are a thousand biliteral roots and eleven thousand derivatives from them, **lun** to "pass the night" and **bo** "to go" being taken as biliteral roots, although in the system of the Jewish grammarians such words are written with three radicals. What then are the triliteral roots? To this it may be replied that they are a step in development in the direction of polysyllabic structure, but less advanced than in the Ural Altaic languages or in those of the Indo European stem. When the root had grown to two syllables the rhythmic feeling was content.

The strict biliterals of Hebrew are with the monosyllabic triliterals to be regarded as the true roots of the Hebrew tongue. The dissyllabic triliterals are to be viewed as derivatives from the biliterals which now exist or which have become obsolete. Deferring the consideration of dissyllabic roots to another chapter it will be proper to consider monosyllabic roots first.

The labial biliterals are such words as **bab** "door". This word

is more Arabic than Hebrew, but in Zechariah it occurs in **babath ayin** "apple of the eye" i. e. door of the eye, in Arabic bubbu al ayin. The root **bam** "high" is found in **bamah** "high place" and in **bum** "to be thick, swollen, firm", a word of the lexicographers. **Mum** and **mam** mean "to spot, spotted", and hence, "a spot". From this comes by change of initial **tam**, "defile", Arab. **mem, mum,** "spot", Syr. **mumo. Paam, pum** "fat, to swallow, the mouth, fat" Arab. **payam** "fat".

If we examine roots with **m, b, p** initial and **d** final we find, **bad** "part, separation, thread, nonsensical or lying words", **mad** "a robe, measure". The words **mot** and **nud** with **nut** are "to nod, shake", **mut** or **muth** is "to die, to be extended, to stiffen".

When **d** was reached in the process of letter change which began with the lips and advanced inwards it was physiologically probable that all the letters pronounceable by organs within the teeth would by aid of the tongue soon enter the syllabary. We find them all well represented in the biliteral vocabulary, **bor** "hole", "well", **baz** "prey", **bar** "pure, tried", **ben** "son", **bath** "danghter", **bar** "corn", **bul** "rain", **buz** "despise", **bash** "to be pale, white, ashamed", **bush** "extend, tarry", **beth** "house", **bal** "not", **bar** "field" in Aramaic, **bar** "son", **bath** "a measure of eight gallons". **Maen** "refuse" in Piel. **Maas'** "refuse" in Kal. **Mean** in Aramean is "perform, prepare". **Maas'** in Niphal is to "dissolve". **Mas'** is "a melting". **Mut** is "to sink, turn aside". **Muk** is "to dissolve". **Mul** is "cut away, before, over against". **Mots,** "chaff, what is separated". **Mur** in Niphal is "change". **Mush** is "to be changed, to give way, totter". **Mōăkh,** "marrow, fat". Hence **mēăkh** "a fat sheep, fortunate person". **Man** is in Chaldee "who? what?" and it is also indefinite, "whosoever, he who", from which it may be concluded that in Chaldee the

indefinite pronoun is directly developed from the interrogative as that is from the demonstrative. **Man** is "a portion". "To divide", the verb to which Rabbinical grammar refers it is **manan**. **Min** is "from, a part of, through, by, than". **Mas** is "tribute, bond service". **Mar** is "bitter". **Mor** is "a drop, myrrh". **Mat** is "people, warrior, man".

If this list of words be continued under the letter **Pe** we have **Paar** in Hithpahel "to dig, a bore," a surd from the sonant **bar**. **Paar** in Pihel "to glorify" from which is formed **Peer** "crown, ornament". **Pul** is "a bean, to swell, hill shaped, a hero, vigorous". **Puts** is "to scatter, pulverize". **Push** is "to spread". **Paz** is "pure, broken, fine gold". **Pal** is "a judge, a powerful one". **Pam** in Chaldee is "mouth". **Pen** is "removing, lest". **Pas** is "extension", and in Chaldee "wrist, stretched out hand". **Pas** is also "the step from the ankle". **Par** is "a young bullock, manly youth". **Pash** is "folly, mischief". **Path** is "a bit, a piece".

The original sound of all these words would consist of a labial initial or final with one of the primitive vowels in the intermediate position. But as an alternative to this the initial or final might be a prefix or suffix and the root be a mere vowel.

The action of the hand is seen in many words. Pronouns for example are necessarily demonstrative but they take a special sense as interrogative, possessive, indefinite, relative and these varieties cannot easily be imagined to arise from any source but from the demonstrative. The demonstrative also cannot easily be conceived as separate from the hand which points. In the same way the act of extending the arm to describe extension, of beating with the arm to denote striking, of grinding, rubbing, shaking and other actions imitated by the hand to describe special operations are all inextricably associated with the name of the hand at different periods.

Briefly, the demonstrative, the hand, the act, and the object operated on, all have one name, and are differentiated by slight variations in sound sufficient to distinguish them to the mind. What is needed for this development is time. Letter changes proceed slowly as we see in the present day in living languages.

The appearance of the labial pronoun in the biliteral formation shews how early it originated. Being the hinge of conversation it ought to belong to the first stage in the history of language. This view is confirmed by what actually happened. The affirmative and negative are expressed by the action of the hand. Thus we find the negative represented by **bal,** which is the hand pointing in a direction opposite to the affirmative. Such verbs as "refuse" and "despise" would quite naturally be expressed by the hand as used in gesture, and the sound would be labial with some one of the primitive vowels.

In the time when the biliteral roots were a language before the growth of triliteral stems and of the conjugations a considerable amount of civilization had been attained. The people then appear to have fed bullocks, and sheep. to have had judges, and to have cultivated beans and corn. Doubtless also they had weights and measures. This would very naturally be the state of Babylonian civilization out of which Abraham emerged, and the same roots so far as they occur in Arabic indicate the existence of Babylonian or Egyptian agriculture and trade in the social life of that race.

These things seem to have existed before the formation of the triliteral roots. There was a time when Semitism was much less distinctive than it afterwards became. Words were selected as prefixes to make cases, and others became suffixes. The period which witnessed the growth of the case suffixes of Hebrew would naturally be later than that of the case prefixes or prepositions. A

postposition has an air of artificiality, while a preposition is natural and in its proper place.

Some of the biliteral roots are of the most primitive complexion. **Ab** "father" **em** "mother" are among the oldest in the language and belong naturally to the time when only labial letters were in use. These words would be formed by infantile lips and adopted by the parents as names for themselves. **Akh** "brother" also means "ally, god, neigh bour". Having this indefiniteness of sense it would be a demonstrative at first, meaning "that person". In a family this would become "brother", a word being much required to distinguish brother from father and mother.

If this be true the demonstrative pronouns must in their origin be very early and among them the labial forms will be the most primitive. We have then in **mah,** "what"? **mi,** "who"? words which have become interrogatives after first being demonstratives. No guttural words can claim so ancient an origin, and **akh** itself for "brother" though found in Arabic and Syriac and therefore manifestly older than the time when the Semitic nations separated from each other, is yet not so old as some other roots, such as the demonstrative from which it was formed, and the Semitic terms for father and mother.

In biliteral roots transpositions occur, for we have in Arabic **bu** "father" where the **a** of **abu** has been dropped showing us how the transposition may have been effected.

Since **d** has been evolved from **b** in such words as **din** "to judge" reduced to a verb of cutting, just as **bayin** "between" is reduced to a verb of cutting, we may assume that **dod** "father's brother" is formed from **ab** "father" by a change of **b** to **d.** This is somewhat analogous to the change of **pater** to **patruus** in Latin.

The labial demonstrative from which **zeh, hu, da** have been

formed, as well as **yod** "hand" with which these words are in primitive gesture language necessarily connected, lurks in the syllable **mo** of **bĕmo** translated "in that which", and in **lĕmo,** "to, at" and **kĕmo,** "as", and the use of these forms in poetry was caused by the love of ancient expressions. The pleasing art of the poet employed long ago in selecting such expressions for a place in his compositions has preserved them from oblivion and conferred a benefit on philology.

Clearly too we may see the process of letter change in the three prepositions **be, le, ke.** They are all the same metamorphosed demonstrative which slowly during the long biliteral period assumed these forms. If we try to imagine a reasonable origin for these prepositions we cannot separate them from the action of the hand in pointing, and we might very properly represent the labial form **be** as a demonstrative in **b** naturally standing at the head of this group of prepositions, each of which was evolved by slow steps from the same source. From what we know of the letter **l,** its origin must be sought in **d.** In forming **d** the rim of the tongue is in contact with the upper gum for an extent of three or four inches so as completely to keep the breath from passing out. Out of this configuration **l** is formed by opening side apertures. The sound **b** will then, when **l** is to be formed from it, first be changed to **d,** because the closing up of the mouth at the lips when **b** is pronounced, is like the closing of the mouth at the teeth by the tongue when **d** is pronounced. This resemblance gives priority to **d** over **l.** Therefore there must once have been a preposition **de** from which **le** was formed. It was probably from this lost link **de** that **ke** "as" was formed, but this was not essential, for there was the demonstrative **da,** the parent form of **zeh, zoth** from which it might be readily evolved. The hand, in the formation of words

such as, **as** and **like,** is inseparable from the process. Men without hands to point with would never have made demonstratives. When **ke** was formed from **da** it might be through **g.** If so we have another lost adverb to regret, a loss which preceded the separation of Arabic from Hebrew for it is equally absent in that language.

If we now take stock we have arrived at a time when a preposition **be** and also **de** existed. The Chinese, Tartar, and Indo European systems, would it will scarcely be questioned, also be in existence then. In Mongol and in Greek we have a suffix **de** for "to a place", and in Chinese a prefix **tau** or **to.** These facts may help us to decide that in Hebrew evolution the prefixed case particles are anterior to those which are of the nature of suffixes. The vowels in the biliteral roots, so far as we can judge, were used to distinguish words, as afterwards in the triliteral period they were used to distinguish tenses. In the biliteral period Semitism would conform more nearly to the standard of contemporaneons tongues whether Indo European or other than afterwards. It is not more than ought to be expected that, the growth of complete Semitism as we see it in a Hebrew Grammar being very slow, the vowels which later expressed a past or future, a substantive, or participial sense should in an earlier stage of development be quite differently employed. In fact we find that the biliteral vocabulary uses the vowels to distinguish the signification of words independent of tense or conjugation, or the marking out of verb and noun. Thus we have **āb** "father" **eb** "strength". The **e** in this word may have been **i,** the construct plural being **ibbe,** and one of its derivatives the name of the month of barley harvest being Abib, where the **i** retains its place while **a** is used in the first syllable. **Ob** "enchanter" is a third instance of the vowel changing with the sense. **Yam** is "sea" and **yum** is "day". **Bar** is "son" and **bōr** is "purity".

Yet it does not appear in Semitic lexicons that in the biliteral period vowels were much varied in roots. Thus the Hebrew **bad,** with the meanings "thread, apart, speech", is pronounced as if written in each case with short front **a.** If **ban** "intelligent, knowing", was always distinct in sound from **ben** "son" we cannot now tell. **Dab** is to "faint" and **dob** "a wolf". We have **dag** a "fish" certainly primitive and **dig** "to catch fish". The change in vowel from noun to verb here is surely a change not unsuitable, from the flat and somewhat lazy sound **a,** to the energetic **i** which draws up the lower jaw and narrows the sound passage as much as possible. We find **khēq** "bosom", **hek, hok,** "a decree" and **hukm** "a decree," in Arabic, where **m** is a derivative suffix. **Kaf** is "palm of the hand, hand" and **kef** "a rock", as in the Syriac Cephas in the New Testament. **Leb** is "heart" while **lahab** is "flame, lightning". We are then warranted in concluding with such cases before us that vowels were used in the biliteral period to distinguish the sense of words. If so this goes far to prove that in its origin, as to all chief features, the Semitic stem was like other stems of quite a different upbuilding.

At a very early date there might be many vowels but this was not the case at the close of the biliteral period. There may have been then but three or four vowels as the choice of letters for the alphabet seems to imply. Professor Sayce says "the Semitic languages have marked their decay by modifications of the three primitive vowels which alone appear in Assyrian and classical Arabic" (1). But the vowels though few were used to mark variety in sense, and not as afterwards to distinguish tenses and moods.

Semitism appeared after the biliteral age. A triliteral structure, the appropriation of the vowels to mark mood and conjugation, the

(1) Assyr. Gram. p. 5, 6.

Vav conversive, all belong to a stage in the growth of the language later than the biliteral period, and it is chiefly these and some other peculiarities of triliteral origin that constitute what is meant by Semitism. Yet at this period in the advance of philology it is well to treat all Semitic roots as Semite from the beginning. Eminent philologists do not at present admit the unity of the roots of differing stems, and the argument for evolution can be better conducted without demanding that admission.

CHAPTER V.

THE SYNTAX OF THE BILITERAL PERIOD.

The syntax of Hebrew in the biliteral period may be judged of by occasional passages in the Bible. In the first verse of Genesis **bara** "he created" comes before the nominative, God. This is a Semitic transposition. With this exception the whole verse has the primitive order. Thus "in beginning God created the these heavens and the this earth". The word "the" **eth** governs the accusative as a case particle "These" and "this" before heaven and earth are the demonstrative **ha** which has become weakened into an article. The case particle and article may be omitted as in Deut 4, 32. "God (2nd) created (1st) man" and this is really older.

In the second verse "and the earth was waste and void and darkness upon the face of the deep" the verb is not transposed. It is a substantive verb and this fact seems to indicate that one cause of the transposition of the verb and nominative in Hebrew is the force of the verb's activity. Hebrew places the most emphatic idea first. There is a transposition of the genitive. The old syntax requires "the deep's face". The Hebrew loves to place the special before the general. When Vav and the substantive verb stand first as they often do it is by attraction. The syntax of an emphatic verb is imitated by an unemphatic verb. In the remaining clause "and the spirit of God moved on the face of the waters" we need but to have "God's Spirit" and "the water's face", then the grammar would be primitive.

In the third verse we have the Vav conversive twice. If in accordance with the idiom we read the future as a preterite we have

"and said God, Let be light and was light". The verb "said" precedes its nominative. The substantive verb cannot be regarded as out of its proper place. There is no emphasis to remove it from that position to another.

In the fifth verse we have an instance of the postposition of the adjective. The sentence "and the evening and the morning were the first day" is in the form "and was evening and was morning day first".

Thus we have four transpositions. The most recent is the conversive effect of the conjunction Vav in Hebrew in changing the future into the past. In the same way Vav conversive changes the past into the future. The other three transpositions of Hebrew (and with Hebrew the other Semitic tongues) are the postposition of the nominative after its verb, of the genitive after its nominative, and of the adjective after its substantive. These three older changes are as much Arabic and Aramaic as they are Hebrew and they belong therefore to Semitism as a growth anterior to the separation of these languages.

But these four transpositions are a clear waymark in dividing the Semitic syntax into old and new. They belong to Semitic speech as such while vestiges of the old primeval syntax without transpositions (as we have it for example in Chinese) remain still in the Hebrew in a mixed form. The four transpositions are the embroidery which is worked on the old texture. Biliteral words were originally connected into sentences by the old principles. The triliteral age was marked by the introduction of the new syntax. Triliteral Hebrew grew out of triliteral Semitism and developed the Vav conversive syntax. Triliteral Semitic speech in its turn grew out of a biliteral Semitic language which, as the order of words and the similarity of roots shews, stood in a sisterly relation to primeval

Chinese and other ancient forms of speech.

The proofs and grounds of probability for the view that the four transpositions originated in the triliteral age are such as the following.

1. The limitation to Hebrew of the change caused by the Vav conversive, from past to future and from future to past. This shews that the transpositions were comparatively late and that they succeeded each other and were not developed contemporaneously. The reason for this is found in the limitation of our faculties. In language it is necessary for the mind to do one thing at a time whenever special attention is required.

2. When the adjective follows the substantive it usually takes the article. The article precedes both substantive and adjective. This complex and peculiar idiom is found also in Greek as in **ton paida ton son,** "thy son", literally "the boy the thine". The article itself is but an enfeebled demonstrative and its existence indicates lateness in time. In Arabic we have **al khayr al mutlak,** "the chief good" literally "the good the chief". This repetition of the article in connection with the displacement of the adjective cannot be very old.

3. The possessive pronoun follows the same law with the adjective. It is always a suffix and it seems clear that it was by the same impelling cause that the possessive pronoun and the adjective went behind their nouns. The possessive pronoun is a new thought introduced subsequently to the mention of the noun, and it may have been on this account that the transposition took place. The order of the adjective might follow by attraction the order of the possessive. The Semitic eye saw the quality first as all people's eyes do. But the Semitic mind insisted on mentioning the thing before its qualities. Here lay its peculiarity.

4. The personal pronouns follow verbs just as any nominative follows its verb. **Qat'ălti,** "killed I" for "I killed". The strength of the Semitic imagination gave to the verb the first place. The actor followed as of less importance. The first and second personal pronouns may be described as special forms of the demonstrative. The imagination made the demonstrative less important than the verb. It is optional for the mind to name the verb first and the Semitic mind took this course. It was a deviation from older usage. The demonstrative being placed behind, nouns soon began to take the same position. Afterwards the possessives and adjectives followed the example thus set.

5. We see the old order of the adjective in the words of Moses Ex 4, 10 "slow of speech and of a slow tongue am I" **kebhad peh ukebhad lāshōn anoki.** The antithesis between mouth and tongue requires the substantive to stand last and allows the adjective to keep its natural place. We see it also in such examples as in Chaldee **al denah pithgam,** "in this matter", where **denah** "this" is before its noun Dan 3, 16, and in Hebrew **be kol eth,** "at all times", and **mikkol haᵘgam,** "from all the people". We have also ᵘᵍ**esrim shanah** "ten years", **shne bānim** "two sons". The words **kol** "all", **shnē** "two", ᵘᵍ**esrim** "ten" are all adjectives and stand before their nouns. They keep their primitive position because they are not emphatic. In Dan 8, 23, we find ᵘᵍ**az panim** "of a bold countenance". Such examples are vestiges of the syntax of the biliteral age when primeval order prevailed.

6. The main reason for placing the adjective after its noun is that the Semitic mind when using an adjective is generally intent on the expression of some antithesis. The opposition between qualities is emphasized. When qualities are introduced it is not to make a show of words in the manner of a Greek rhetorician but to

make a distinction felt to be important. The adjective therefore follows the noun as a *continuation* of the thought. In many parts of the Bible the use of adjectives is comparatively rare.

Another reason for the postposition of the adjective may be sought in the order of predication. Instead of saying "A stone is heavy and sand is weighty", the Hebrew said "Heavy a stone and weighty the sand" Prov 27, 3. The Syriac for this is "Heavy stone and weighty sand". It appears then that predication having assumed this order, the natural place of the adjective before its noun was preoccupied. This would have an appreciable effect in leading to the permanent postposition of the adjective.

The Aramaic definite article is the emphatic **alef** placed after the noun, as in **alfa** "the thousand". Emphasis prefers to follow the noun some quality of which is emphasized.

Further it should be remembered that the old Egyptian placed the adjective after its noun and that Semitic order is likely to have been powerfully influenced by the speech of its African neighbours.

7. Postposition of the genitive. We find instances in the Bible, though few, of the genitive not following its nominative (1). These instances testify to an older syntax out of which the principle of the postposition of the genitive has been evolved. The biliteral age seems to have had the Ural Altaic and Chinese order in this matter. But in ninety nine cases out of a hundred the order in "son of man", "children of the captivity", "rod of iron" is the accepted Semitic order, as it is also the African, the Taic, the Malay and the Polynesian order.

"The apposition of two substantives is the germ out of which three conceptions have been developed, that of the genitive, the

1. Deut 24,1 ervath dabhar "a matter of unseemliness", Dan 12, 2 "earth dust" for "dust of the earth".

predicate and the adjective" (1). The true primeval law of order in substantives when in apposition is for attributive words and genitives to stand first and for predicates to stand last. This makes the meaning plain without inversion and it is the Chinese and Ural Altaic order. Dr Friedrich Müller has treated the attributive relation and the genitive relation as one, and Professor Sayce adopts this view. Proceeding on the same path two steps farther, 1. The attributive and genitive relation appear to be placed last by modern inversion, 2. Chinese and Ural Altaic are seen to preserve primeval syntax. Formerly (2) I assigned as the cause of the inversion the force of the Semitic imagination only. After reading what Professor Sayce says I think African influence may have helped forward the change greatly. The great effects produced on language by the contemporaneous occupation of one country by nations belonging to different stems is shewn in the Accadian which has so far yielded to the Semitic as to place the adjective and genitive last (3). Yet it belongs to the Ural Altaic stem and has influenced the order of words in Chaldee. Professor Sayce says the modern Ural Altaic dialects have discarded the general rule and placed the adjective before its noun (4). I prefer to say that these dialects, not being joint occupants of any country with nations who put the adjective and genitive after their nouns, have retained the primeval law. The Dravidian and Japanese races with those of Tartary quite weigh down the scale against the Accadians and a few more.

8. That the biliteral syntax of the Semite race was in regard to the position of the verb different from what it afterwards became, may

1. Sayce. Science of language 1, 415.
2. China's Place in Philology.
3. "The position of the article in Romance languages may have been influenced by Teutonic usage" Sayce, Science of L. 1, 425.
4. Science of L. 1, p. 420.

be supported by examples in Hebrew of the verb holding its place in certain passages between the subject and the object. We find "for the Lord has spoken it" expressed in the words **Ki Yehovah dibbēr.** Who shall cut off the house of Jeroboam is **asher yakrith eth beth** etc. In **Ki** "for", **asher** "who", we have words which afford a shelter. The activity of Vav "and" is directed to inverting order, but these words are conservative and resemble a rock or high building which protects a fine tree from a destructive blast. In Genesis 44, 21 we have **vĕasima** ^{ng}**ēni** ^{ng}**alav.** "and I will set my eyes upon him" or "that I may set my eyes on him". The a in **asima** is the pronoun "I". The order is "I set eyes my on him". Here again it is under protection that the nominative retains its place before the verb. It is hidden in the future tense formation but it is there. Just in such sheltered places may we expect to find archaic idioms.

On the other hand the emphasis of contrast places a verb after the substantive which limits its action Ex 1, 21 "Every son that is born, into the river throw, and every daughter save alive".

9. The Semitic verb is shewn to be very plastic in regard to order by the fact that in Chaldee it has through Accadian influence taken the last place in the sentence. So in English the verb which in German often stands last in the sentence has through French influence recovered its place before the accusative.

10. Biliteral syntax remains in such of the suffix pronouns as are in the accusative. In "killed I him", the I is out of place, but the place of him is in accord with primeval syntax. The force of inversion has been exerted in the region of the genitive case, and of the nominative, but it has not invaded the region of the accusative.

Such are the proofs or grounds of probability for the primeval syntax of Hebrew having been different to what it afterwards

became. In the Hebrew Bible the old and the new are mixed. The old laws of order are those of the biliteral age. The new are those of the triliteral age.

We may then reconstruct the syntax of the biliteral age in its main features. The adjective preceded the noun, the nominative preceded the verb, the noun in the genitive case of grammarians preceded its nominative, and among the tenses the past was past and the future was future. The prepositions **im, eth, be, le, ke,** ^{n}**gal, me, min** placed before nouns had the force of case particles as they have in the Hebrew of the Bible. Their form shews them to belong to the biliteral age. As to the old pronouns we may see what they were in the future tense where Aleph, Thav, Yad, that is to say, **a, t, i,** were used for **I, you, he,** as in the old times when the nominative preceded the verb. The future tense, then, shews us the personal pronouns in their proper places according to the grammar of the biliteral age.

By the preceding collection of facts and grounds of probability we are forced to the view that Semitism was subjected to a succession of changes in syntax during the triliteral age previous to which it might very easily be a monosyllabic tongue with a natural order in the concatenation of its words.

It may be said of Hebrew and Arabic that the pronoun used as an article and repeated before the adjective is an idiom that grew up after the separation of the Arabic and Hebrew stock from the Aramaic and Chaldee. The Aramaic is older in this respect than the Hebrew and Arabic. Professor Sayce traces the Semitic race to Arabia as its earliest home, but the Semites were a roaming race that could not remain long in one locality. The peculiarity of the article in Aramaic perhaps indicates a specially great antiquity in the Semitism of the banks of the Euphrates.

In China historical facts make it plain that the language is newest on the Yellow River in the north, and it was in that part of the country that the Chinese first settled. The oldest forms of Chinese speech are found on the lower Yang tsï kiang and on the south coast. All this part of the country was colonial. That is to say, colonial China has an older dialect than primeval China. This is not however the case with English at present or with other European languages. Colonial speech is usually not archaic but rather modern in its features. Where life is most quiet and intellectual, and economical progress slowest, there language will keep its old forms, for human speech changes most rapidly where history finds most to record. Language is an intellectual product, a storehouse of words used by the mind as symbols for its thoughts, and therefore the more the mind is excited to energy, the quicker will language change its forms.

On the Tigris, on the upper and lower Euphrates, and on the Nile, agriculture and the arts flourished side by side. There commerce and the progress of knowledge, combined with the mixing of nations and languages, were constantly operating to stir the Semitic mind to increasing energy. It would be in these regions that the Semite nations, including the Hebrew, received those special influences which stamped on the languages of that family their peculiar features.

CHAPTER VI.

THE TRILITERAL PERIOD.

The triliteral age of Hebrew is necessarily divided into several sub-periods. The last of these is the period of the literature. Immediately before this was the period of peculiar syntactical laws, of which the last was the law of Vav conversive, and the last but one the repetition of the article before adjectives. Before this was the age of the newer paradigms where pronouns appear as suffixes. This age again was preceded by the time during which conjugations appeared with the earlier moods and tenses their common characteristic being the use of pronouns as prefixes. Before this period again was a time during which triliteral roots were formed out of biliterals. Thus we have in all five subperiods making up together the triliteral age. These five subperiods may overlap each other to some extent, but as to a real contemporaneous development of the Semitic features belonging to each it was not possible in the nature of things. Slowness and a certain order of succession are inevitable in linguistic phenomena of this kind.

Out of these subperiods selecting the oldest we have first to attend to the triliteral formation. In this formation it should be observed that it is either monosyllabic or dissyllabic. Fürst mentions that it was the work of Ibn Khayyuj who lived in the 10th century at Cordova, to prepare treatises shewing that the Hebrew roots are all really triliteral. One contained all verbs having Aleph and Yod for the first letter, those having Vav for the second letter, and those having He for the third letter. Another embraced all

verbs whose second and third radicals are the same.

In 1770 we find Erpenius with great learning comparing the Arabic and Hebrew roots and patiently explaining how each letter of the Hebrew alphabet changed into one or more Arabic letters. He took for granted that Hebrew was the common mother of Aramaic and Arabic. Yet in one place he admits that the word sister as used to express the kinship between Hebrew and Arabic, was quite as suitable as mother. He found triliteral roots in all these languages, which he called dialects, and he made no effort to analyse the roots.

Gesenius and Fürst earnestly undertook to analyse the roots. Gesenius represents a triliteral root as consisting in many instances of a biliteral root and a single derivative letter which is appended to it. He regarded **qatsab, qatsats, qatsar, qatsang** as all derived from **qats** "to hew". Each derivative letter had in his view a special meaning attached to it. He identified the same root **qats** with **qash, qas', qad, qat', kas', gaz, gad, khats, khat', khad, khaz.** With such views he would derive **khētz** "arrow", **khazah** "to see", **khat'ab** "hew stones and wood" and a multitude of other words all from the same biliteral root. So also in **gabah** "was high", the final **h** is in his opinion a formative letter intended to fill a certain space and no more. Use **kh** instead and you have an adjective meaning that a person has too high a forehead. **Gabab** is "curved, gibbous". The roots were looked on by Gesenius as imitations of natural sounds and as sometimes identical with Indo European roots.

Gesenius introduced the alphabetic principle in arranging words in a dictionary. Such was the impression made by his scholarship that his works soon replaced older books even in Jewish schools.

Fürst went farther. He believed it was possible in every root to discover the real biliteral portion which contained the primary idea and the derivative letter which was added to it in each case. This separation of the formative and radical elements he makes in his dictionary for every root.

Professor Sayce represents the fact that Semitic roots do not become compounds as a proof that they are essentially distinct from the Indo-European. He regards also the triliteral roots as incapable of analysis. All attempts to reduce them to monosyllables have failed. In his view words are changed rather by phonetic decay than by adding new letters. He says when confronting the large number of parallel roots in Semitic, similar in sound and meaning, such as **katsats, qazaz, gazal, katsar** all meaning "to cut", that they are not derivatives from one root, but so many phonetic types which presented themselves before the unconscious mind as symbols of the conceptions attached to them (1).

This question, I would suggest, may be settled by an appeal to physiology. Physiological processes in producing words are the same all the world over and therefore roots are the same. Every where we find minute changes in words made slowly and new sounds produced gradually from old ones. The Semitic triliteral roots ought then to be gradually formed from the primeval letters **b, m, a, u, i** as is the case with roots in other families of language. The Semitic roots like any small masses found in nature such as the pebble on the shore, the clod of the valley, ought to be capable of analysis, because the complex comes ever from the simple. Research should not be closed till they are satisfactorily resolved. Language like nature requires a long period for the quiet growth of each great formation. This growing time we the more easily obtain

1. Science of Language Vol. 1, p. 391, Vol. 2, Ch. 7.

now, because by modern discoveries the chronology of Egypt and Babylon is known for at least 3800 to 4000 years before Christ. Every century thus added is a distinct relief to the problems of philology.

The subsequent impulse to make paradigms differed from the impulse to make triliteral roots. The Semitic mind when in its creative moods changed its course several times like a ship on the ocean sailing among islands. When bent on making roots on a uniform model it gave all its energy to that one thing and remained on that tack till the roots were finished. The lesson taught us by the triliteral roots is not that Semitic speech differed at first starting from all other forms of language, but that during a long career the Semitic mind devoted itself, at a certain date for a few centuries, to the expansion of its roots till they all assumed a triliteral form. While thus occupied the Semites had a natural syntax the same apparently as in the preceding biliteral period.

The effect of the position of the Semite race between the civilizations of the Euphrates and the Nile was to increase rapidly the number of modifications in ideas each needing a word. The wants thus caused by progress must, it was felt, be supplied and this gave occasion for the creation of new words. These can only be made by a slight variation in some old word which we choose to call a root. The Semitic roots became what they now are at that time and in that way. Each addition made to the root was proportioned to the temporary need. It was just enough for efficiency and no more, and the additions made were from the materials ready to the hand. What was possible was done in each case and there was no haphazard activity.

CHAPTER VII.

GROWTH OF THE TRILITERAL ROOTS

The triliteral roots are usually preterites in form and their vowels are those which denote the preterite. This does not constitute a claim to any superior antiquity for the preterite over other moods and tenses. If we divest the triliteral root of its character as a preterite, and view it as simply the name of an object or an act, we shall do something towards attaining clearness of ideas on this subject. It was in the triliteral age and not before, that verbs with the vowel **a** began specially to take a preterite sense.

The roots are in fact sometimes infinitives. **Qum** "to rise" is infinitive and imperative, and not preterite. Without adding any vowel to the three radicals we are able to say that **Qum** is an infinitive or a passive participle as it stands. These modifications in sense are however not coeval with the original root. The root meant "rising" before the mind assigned to it the limitation we call infinitive, or that which we call imperative, or passive participle. When we extricate ourselves from the influence of the paradigms we find that **qum** is no more the root than the preterite **qam,** or **qawam** which we recognize in **qamon,** "standing place", the name of a place in Gilead. We are here free from the law of paradigms and only under the control of physiology, which tells as that **u** is evolved from **a** and helps to form a new word suitable to express some slight change in idea which the mind desires to symbolize. We go a little farther back, and the root is **dum** or **bam** as in **bamah** "a high place" because physiology caused certain letter changes long ago. To say that such a word as **qum** "to stand, to rise" is a triliteral

root consisting of three consonants is merely a form of speech and means nothing but what learned Jews in Spain and Syria formerly decided it should mean. Physiologically it is biliteral and consists of two consonants with a vowel to join them.

It is a fault in the triliteral theory that physiological fact is trifled with and obscured by the assertion that **a** and **u** with **o** and **i** are always consonants when Aleph, Vav, Ayin, and Yod are written for them. Semitic pronunciation of words is on the other hand entirely independent of the Phœnician alphabet. A medial Aleph is as true an **a** as **Qamets** or **Pattakh.** In **Beer** "a well", we have in old writing Beth, Aleph, Resh, i. e. **bar.** In writing with points we have Beth, Shva, Tsēre, Resh, i. e. beer. The verb "to dig a hole" is the same with "well" in old writing, viz **bar.** In writing with points it is **Qamets, Pattakh, Resh.** i. e. **bāar.** What Rabbinical grammar calls a consonant and physiology says is a vowel is the source from which Shva, and Tsere were both formed by certain movements of the tongue. These movements were used by the mind to distinguish parts of speech and tenses as they happened to be wanted. The mind wishing to perpetuate certain modifications of thought made use of the symbol which was nearest at hand in each case as furnished by the supple activity of the tongue. Bar or beer is a true biliteral.

We thus learn when not to follow the Jewish Rabbis who through their study of Greek philosophy in the Middle Ages imbibed too great a fondness for logical categories and sought to force the truth of nature into shapes to which it is not fitted.

The insertion of **i** between two consonants fails to make a triliteral root suitable for the lexicon in most cases, because of the proximity of **i** to **u.** The root prefers **u** usually. We have **din** but it is registered in the dictionaries as a derivative under **dun.**

Bēn "between" written with Yod but pointed with Pattakh and Khireq, is derived from **bin** "discern, divide". **Bin** is the example now given in the paradigms of the grammars, but the Rabbis were content with the form which inserted **u** (1). The question is one of choice between two high vowels which again both of them are formed from **a**. Thus we have the Aramean **mna** "divide" and Hebrew **manan** "divide" which may very fairly be identified with **bin.**

So far the investigation is quite conclusive. Vowels can only become consonants as **u** and **i** become **w** and **y,** by losing their syllabic musical effect and approaching the consonants in narrowness of aperture and conversational sharpness. This is not the case with **u** and **i** in the triliteral roots except when they stand first either in the first or second syllable as in **lawah** "to join" (2) or **yada**^{ng} "to know". When second radical **i** and **u** are so unwilling to lose their vowel character that if Kheth or Ayin follows as third radical, **a** Pattakh is inserted. A diphthong is thus formed the effect of which is to prevent **i** and **u** from becoming consonants, as in **nuakh** "to rest". The lesson to be drawn from this fact is that **i** and **u** in the middle of a root prefer to remain vowels, and the root therefore is biliteral.

The imperative like the preterite in **a** and the infinitive with medial **u** cannot claim exclusively to be the type of the verb in the triliteral age. One of its characteristics is brevity. Brevity leads to the loss or shortening of the first vowel. The Syriac verb has no vowel after the first radical in the imperative or the preterite. This circumstance is in favour of the view that the triliteral verb

1. Rödiger's Gesenius § 72.

2. *Navah*, "rested". *Qavah* "bound, was strong". It is before He that *u* becomes *v* or *w*. *Maveth*, "death" also occurs, and *Naveth*, "house of rest".

had at first only one vowel and that the 1st and 2nd radicals formed a compound consonant. This however may have arisen from the growing strength of the accent on the last syllable which is its normal position, and a compound consonant is not likely to have been very primitive.

But if we conclude that **u** and **i** were the vowels heard before the paradigm age when the second radical is **vav** or **yod**, and **a** the vowel heard in the other roots, we shall probably be near the truth. It will not be quite the truth because vowels are peculiarly liable to change. But it will be the best course we can take to regard **qatal, qum, bin** as the three types, marked by the open mouth vowel, the lip rounding vowel and the narrow aperture vowel, which contain the true vowels belonging to the roots in the age before the development of the paradigms.

At that time **qatal** or **qtal,** according as we take the Hebrew or the Aramaic to be the older sound, would be the verb and it would be past, future, imperative, or infinitive, the change of vowel to mark tense and mood not having yet commenced. So **kum** "rise" and **bin** "distinguish" would be just as good preterites then as they are infinitives now, because at that time the Semite vocabulary would be under the control of those laws which regulate the pronunciation of roots in other families of language.

That intellectual faculty which makes grammar would have had too much to do if the vowels had to be adapted to their new uses contemporaneously with the elaboration of triliteral roots. Hebrew roots may be compared to tripods. The mould is made first and while the clay is soft an iron style is used to mark inscriptions and ornamental lines and scenes. At last the melted metal is poured into the mould, and when the mould is struck off the complete tripod appears, the result of several successive kinds of

manipulation. No one generation ever yet elaborated more than a very small part of the grammar and vocabulary of a language.

Nor are we at liberty to suppose that the Semitic tongue while the triliteral roots were being elaborated was not a form of speech in actual use. It changed by slow degrees into the form it has in Hebrew literature. But till it became a dead language and was exchanged for the Aramaic and the Arabic it was always real speech and a pure product of nature's plastic hand.

The root for "behind, to delay" is in Hebrew **ākhar** "tarry" **akhēr,** "following, another" **akhar,** "after". The Arabic is **akhir** "the end, last, after". The Aramaic is **khroyo** "last", the initial **a** having become silent. Among these forms we give the honour of the greatest antiquity to the Hebrew, because **a** is apt to change into **o** and into **i.** Besides the Aramaic has dropped the first radical **a.**

Such an example shews us the high value of the Hebrew as preserving to us the triliteral roots of the age anterior to the introduction of the paradigms.

We now suppose ouselves to be stationed at some point between the Euphrates and the Nile among the Semitic people. It is the beginning of the triliteral age. This race is devoted to pastoral pursuits but many of the people are well acquainted with the life of cities and live on the produce of cultivated lands. The speech of the time shews this, for the vocabulary is rich in terms suitable for commerce and the tilling of the soil. As the grammar of France and Italy grew up out of the Roman civilization, so Semitic grammar would grow up after the civilization of the Nile and Euphrates had made considerable progress. We ask what principles were at work by which biliteral roots became triliteral?

In the biliteral period there had previously been many changes

in letters, so that not a few words had acquired two or even more forms. The tendency to form **d** from **b** for example would change **bab** "door" into **dal** and possibly other words, all meaning "door". The word for oxen, **bo** or **bob,** had developed into **tor** and **t** becoming **sh** it was heard as **shor.** Thus there was great variety in the monosyllables existing as roots at the commencement of the triliteral age.

The principles which operated to add letters to the roots were such as (1) repetition and (2) fancied cacophony, with (3) the desire to make distinctions by adding pronouns as prefixes, as also (4) a similar tendency to make distinctions by suffixes, and lastly (5) insertion of letters.

1. Repetition. This principle operates powerfully among children, among savages in a state of nature, and to a large extent among civilized peoples. The whole word is repeated or one letter only. **Leb** "heart" becomes **lebab. Cochab** "star" comes from **kabkab** which was shortened to **kokab.** From **rab** "great" were formed **rabrebin, rabreban,** "magnates" and **rabab** "multiplied". **Tsalal** "overshadow", is formed from **tsal** "shadow" which in Aramean is **t'alla.** In this last word dagesh forte is found. **t'alla** is an instance of another form of repetition, that is to say a form in which a vowel follows the repeated letter instead of preceding it. Additional examples : — **Sabab** "surround" **sarar** "apostatize" **t'alal** "to give a shade", **gadad,** "cut, decide".

2. Fancied cacophony. This principle so operates as to increase the number of instances where changes in the old consonants take place. The old letter is found not only unserviceable as a distinctive mark for a shade of idea, but also unpleasing to the ear. **Dabar** "to speak", may thus have grown out of **dabab** by change of **b** to **d** and to **r.** It seems easier to explain the origin of **r** in this

way then as an independent suffix. But if **dabar** is quite as old as **dabab** or older, and the **r** independent, it becomes necessary to suppose a demonstrative suffix. In **dabal** "knead together", **debēla** "a mass pressed together, cake of figs", **dabaq** "to adhere to" we have a root **dab,** "to press, lie close to". This root is probably the same with **khabaq** "embrace with the hands", **khabar** "to bind, connect closely". **D** has changed to **kh** and the original root is to be sought in some lost form **bab.** We find also **khabal** "bind with cords", **khebel** "a cord". But this root is probably independent, unless we go back to the time when natural sounds were heard and imitated in connection with binding either with cords or withes, but even then the pressure of adhesion might be the same with the pressure of binding in the thought of the word maker. We may account for the final **l** and **b** from the dislike of cacophony or want of success in conveying distinctly the intended shade of idea.

Forms not admitted into the vocabulary are **bagab, badab, badats, badash, badas,** and very many more. Such combinations are cacophonous.

Cacophony tends to conceal the identity of wide spreading roots in the labial, guttural, and other groups. In the labial group for "well, pit", **r** was preferred as final, as in Beersheba, "well of the oath". In the guttural group **b** was the final retained in **gēb** "pit, spring".

3. Prefixed pronouns or other words or letters intensitive or interjectional, We meet with **asaf, yasaf, s'afah.** All meaning "add". It is the biliteral root therefore that has this sense. The prefix Aleph, Yad, or Samech is not radical but servile, i. e. pronominal. Primeval speakers used their hands in conversing without intermission, and the pronoun is the representative of the hand. But the prefixes **a, s',** and **i** became radical by their position,

compelled to it by Semitic morphology in the age of the formation of triliteral roots. Another instance is **shakab** to "lie down". **Kab** is the root and it means to "bend". The prefix **sh** may be regarded as an intensitive. It is **shkab** in Aramaic. So also **shalab** "to join, bind together" is a derivative from **dab** "press together" mentioned in the preceding paragraph, with Aramaic form **shlab** and Arabic **salab.** Also **shalak** "to send", Ethiopic **laacha,** Phœnician **laak,** is the same with **malak** "send, messenger", in Hebrew. The prefix **m** is demonstrative. Sometimes **sh** is **t** in Aramaic as in **sheleg** "snow", **shalag** "to be white". In Lebanon **leb** "white." is the same word, with **b** for **g.** **Taraf** "to heal" is the same as **rafa.** **Saba**^{ng} "to satisfy" is the same as **taraf** "to satisfy". **t** being a prefix and **r, f,** corresponding to **s, b. Shabath** "to rest", Sabbath, is from the root **bat** in **bathah,** "to separate, destroy", **abad** "destroy", **nebath** "husbandry". In this case **sh, a, n** are all prefixed to the root. **N** is abbreviated from **hin** (and it is in Arabic **in**) in the Niphal conjugation. When **n** stands first as a prefixed first radical in any root of which the 2nd and 3rd letters are the original radicals, it will naturally have the same origin. The addition to the sense made by **n** is therefore that of a middle voice or mark for reflexive action. **Sabal** "to bear". Arabic **sabar** "suffer, bear patiently". Aramean, **yebal** and **mubela,** a burden. Compare also the word **nadab** "give willingly" from **leb,** "heart" (1).

Additional examples : — **naba**^{ng} "bubble up", compared with **ba**^{ng}**ah,** "bubble up", **bug** "to cook", **bu**^{ng} "bubble up". **Natsab, yatsab,** "set in a place", **yashab,** Pahel **yatseb,** "make certain". **Sheber,** "corn, that which is borne" from **shabar, bar** "corn". **Sagab** "to be high" **gab, gabah, gaba**^{ng} "high". **Haphak,** "to

1. This derivation of *nadab* from *leb* is not in Gesenius or Fürst, but there can be no doubt of its being highly probable.

change, turn" is also **afak** and it appears to be connected with **khalaf** which in Kal is to "pass away" and in Piel is to "change". **Afaf** "to surround", the same with **sabab** in meaning, is an old poetical word of which the root is **bab**. But in **sabab s** is from **b** through **d** while the second **b** is a repetition of the first.

Sometimes *a prefixed Aleph or Yod is a harmonic augment*. Quite possibly the vowel of the biliteral root may in some cases have been placed as an augment before the root thereby forming a first radical. Thus the word "dumb" is changed from "mum" we will suppose. In Hebrew from physiological causes (I do not say genealogical) it is **illēm** "dumb", **ēlem,** "silence", **ālam** "to be dumb or silent". In lexicons the root is derived from binding. But it is better to desert this etymology and view the root as primitive because the hand, the foreman of the mind in wordmaking, points to the mouth of the dumb, and some sound like **mum** becomes naturally the basis for a word. The prefixed **a** may be demonstrative and interjectional or it may be the vowel of the biliteral root thrown back as an augment.

The "loosing of the tongue" in Mark 7,35, shews that in Semitic speech binding and dumbness were connected, but philologically that does not prove that the root **lam** for **dam** in the sense "dumb" was derived from binding. The Semitic consciousness took too hastily for granted what cannot easily be demonstrated. Binding has often a sound accompanying it which might become the root.

A prefixed **s** or **sh** may be an *intensitive* like the **s** in our own words sneeze, spatter, speak, placed there to add descriptive force to the elocution in this case. In **shafal** "to fall" the **sh** may be accounted for in this way, without calling in the aid of a pronoun. Since **afal** is "to be low" and **nifal** "to fall", there can be no doubt

that **sh** is a prefix. The origin of any intensitive, whether it be prefixing **sh,** or doubling a second radical (Piel) or the use of the high close aperture vowel (ī) as in Piel and Hiphil, is in mental emotion which increases nerve force and compels the muscles of the lower jaw and of the tongue to put out extraordinary energy. The choice of the intensitive, whether a prefix or doubling a letter, when made in the case of any word, would depend on what the fashion was at the time.

4. Pronouns or other words appended as suffixes. The third radical of triliteral roots is often a pronoun. The fact that pronouns can become derivative suffixes is clear from the marks for gender, number, and case, which in many instances have a pronominal look. It is by the use of a demonstrative and by pointing with the hand that in early times these distinctions would come into existence. Pronouns which we may also call transformed interjections, would of necessity be the most convenient marks for them. So it would be with the triliteral roots. A new mark of distinction would be needed for a certain variety in meaning and a pronoun would be added. Examples —: **Khashab** "think of", **ngashath,** "a god will think of us" Jon 1, 6. Final **th** and **b** may be the residuum of old pronouns. But Gesenius adduces the Arabic **hasab** "to compute", and represents the meaning "meditate" to be derived from computing, while according to Fürst it is from binding (**Khabash**), **b** and **sh** having changed places. In this case **sh** is pronominal and the biliteral root is **khab.** If another group consisting of words commencing with Beth, Qoph, be examined we find **baqbuq,** "a bottle", **baqang** "divide", **baqaq** "to depopulate", **boqer** "morning", **baqar** "plough", **baqash** "to seek", **baqar** "cattle for the plough". Some of these may be disposed of as instances of repetition. Ayin is for example a repetition of **q.** As to **r** and **sh** they may be viewed

as pronominal, since they both proceed from **t, d.** **Gōb,** "a den, pit, cistern", takes Aleph as a suffix with the sound **gĕbĕ,** "lake, cistern". The idea is that of "a concave bending, a hollow", which may be natural or artificial. But convexity is expressed by the same root as also the notion of "gathering together", of "height", and of "a side or boundary to any thing". Beside these there is the notion of "power". All are inherent in **gab** or **gob.** Roots come to be interlaced like several parasites and neighbour creepers found growing on the branches of a single tree. We find **gabbah** "crooked" a proper name, "the arch of the eye", **gabah** "to be high", **gaboah** "high", **gobah** "height", **gebul,** "border", **gabal** "form a boundary", **gabia^{ng}** "a cup", **gabal,** "twist closely together", **gaban** and **gaba^{ng}** "to be arched", **gabar** "to be strong", **geber** "warrior", **^{ng}ofel** "hill".

In regard to the final letters **h, l, n, r,** and the rest, they may all be pronominal, and be simply in the first place the equivalents of the word "that" pronounced after any biliteral root, to add definiteness to the idea. **L, r, n** are all changed from **d** in the first instance, but when they were established in use as derivative suffixes to certain roots, of course each of them might be used as such, when their pronominal origin was forgotten, to make other biliteral roots into triliterals. What was once a separate pronoun became a derivative suffix simply and was attached to new roots in this character.

5. Biliteral roots are made triliteral by inserting a letter. The inserted letter may be **n, r, a, i, u,** or ayin. Thus in **gānab,** "rob", **ganab,** "robber" **n** seems to be an insertion. The roots are Ch. **gab** "side" **gaf** "wing". In Arabic **janb** is "side", while **janah** "wing" has probably lost final **b.** The insertion of **n** is shewn by the Chaldee examples, to have taken place. The meanings "wing, side,

rob" are all inextricably associated in this root. **N** may be pronominal and may have been at first a prefix or suffix, and afterwards transposed.

In **zanab,** "a tail", Arabic **danab,** it may be asked have we in **d** and **n** a case of repetition or are we to regard **n** as inserted? **Nuf** is "to wag" and this is probably the root of **zanab.** In that case **z** is a prefix as Fürst regards it. **S'anaf** is also "to wag" and this favours the hypothesis that **n** and **z** are one letter repeated.

While an inserted **n** may be viewed as really a case of repetition it may be very different with an inserted **r.** This letter is more near to a vowel and when such vowels as the middle extension vowel, with which it is in proximity, change slightly they may become **r.** In the Mon Anam languages **r** is inserted as also in the Indo European system.

Remarks on the distinction of servile and radical

The Jewish grammarians called all letters servile which are added in the inflexion and derivation of words. Eleven are servile **a, b, h, v, i, k, l, m, n, sh, th.** The rest are radical. Of the so called radical letters, **z, kh, ng, d** occur in Hebrew and Aramaic pronouns and prepositions. Hence the distinction is not fundamental. It simply shews regarding **k, sh,** and **th** that the formation of the paradigms belongs to the age when the surds were in fashion as a new growth from their respective sonants.

The so called radical letters such as Daleth, Gimel, Teth, Samek are to be explained as having once been pronominal elements, and as being vestiges of an age when the pronouns were less attenuated and included consonants of the sonant series like **g, d, z** and of the extension and aspirate series like **dh, t', s.** It should be remembered that in accounting for each new radical in triliteral words only a few principles are at our disposal, viz. re-

petition (intensity) change of letter subsequent to repetition (cacophony), pronouns used as articles or demonstratives (calling attention) and intensitives. If the radical is **b** or **d**, or some other consonant not usually formative, we must still expect to find that in the age anterior to that when the formative letters were evolved from the contemporary stock of pronouns, other consonants would have a pronominal force. These would be **d**, **z**, **b**, **g**, **kh** and perhaps others.

At one time or other all the consonants have taken their place as parts of pronouns. It is not too much to claim that Beth which we find in **be** "in" "at" and Daleth which we find in the Aramean demonstrative and relative **da**, were in the earliest portion of the triliteral age so decidedly demonstrative that they could be used as formatives just as **t**, **n**, **h** or **sh** were used afterwards.

If this supposition be allowed the whole triliteral formation is, speaking roughly, accounted for.

Examples. **Khabaq** "embrace" **kh**, a derivative prefix. **Gadaf, hadaf, dafah,** "to revile" from **daf** with the sense "to strike". **G** and **h** are derivative prefixes. In **khemdah** "desire, **beauty**" **khamad,** "wish, pleased with", **d** is, like **h**, a suffix, a pronoun in disguise. The root is **kham,** and is the same as **kamah,** "long for". In **kasam** "to shear" the final **m** is suffix, **kas'** meaning "to cut", like its equivalent **kath,** in **kathab** "write". **M** and **b** are derivative suffixes. In **marad** "rebel", **mara** "to be perverse", **marah** "to murmur", **marar** "to be bitter", **mor** "myrrh" we find **d, a, h, r,** used as derivative suffixes appended to a single biliteral root.

CHAPTER VIII.

TYPES OF THE CONJUGATIONS OCCURRING IN TRILITERAL ROOTS.

The unconscious aim of the Semite race in the conception and consolidation of the triliteral roots is not far to seek. Conjugations were not at first the object. A desire was felt to form derivatives on a large scale from biliteral roots and the work was controlled by the law that for the present only three consonants, or vowels viewed as consonants, should be allowed. From the derivatives conjugations were subsequently formed.

For the time the realization of conjugations and a complete Semitic grammar was an idea too refined and complex for the point of progress to which the Semitic race had then attained. This could be postponed. First, a convenient basis could be laid in triliteralism. Afterwards the grammar for which the race was preparing could be built up from it when the culture they gained in Egypt at an early period (1) and the suggestions received by them from Egyptian speech, suited them for this task.

Yet it is observable that in the triliteral roots the conjugations afterwards to be developed existed in *type*. There are among them passives, causatives, and intensitives, with verbal nouns prefiguring the participles. Grammar is from its nature eminently fitted to work itself out in type and antitype, and this repeatedly in long continued effort to realize the fundamental ideas of the mind.

1. An early Semitic occupation of Egypt long before the connection with Chaldea indicated by the call of Abraham.

Thus the Hebrew **hadaf** is "to push, thrust, repulse". But we find **dophai** "a stumbling block" **dafkah** "cattle driving", In Arabic we have **dāfi**^{ng} "driving back" and **difā**^{ng} the same. **Daka** in Piel is "to tread under foot" and **hadak** is in Job used for "to trample under foot". The letter **h** has a transitive force here. The verb **hafak** is "to turn, pervert" and is transitive or intransitive. In Arabic **afk** is "to turn over, divert from any purpose". Hence we may conclude that **a** and **h** both had a transitive force when prefixed to a biliteral. In Gen. 19, 29 the noun **hafēkah** "overthrow" is in the Samaritan text **afēkah** from the Aramaic **afak.** This shews that **a** and **h** as first radical had a transitive force in the Semitic triliteral formation. The Hebrew Hiphil is in Syriac Aphel or Shaphel. In view of such a fact it is not too much to say that in the triliteral formation the conjugations Hiphil and Aphel exist in type waiting for the time when they may take their full form as in the paradigms of the grammars. When the paradigms were developed the **h** and **a** were true first radicals and the consciousness of their separateness had disappeared. Another **h**, with the intensitive vowel **i** to give the causative sense, was in consequence prefixed.

So with the prefix **n.** It has a passive sense in some triliteral roots. Thus **nafats** in I Sam 13, 11, in the words "I saw that the people were scattered from me", is the word rendered "were scattered". We may regard this verb as a derivative from **futs** "to scatter". In the development of the paradigm the meaning as a passive being already plain it was not attempted to construct for this verb a new Niphal conjugation. But the word **nagaf** "to smite" has a Niphal future **yinnagefu** formed regularly with **dagesh forte,** "they were smitten". Probably then **n** as first radical already had in part a passive sense. This should be remembered in connection with the question is there composition in the triliteral roots. The

use of **n** (that is of **hin**) in these roots requires an affirmative answer to this questions under limitation. The added word must be a pronoun, or other particle, out of which the realistic sense has long faded.

In **zagaf** "to raise up" and **sagab** "to raise", we have a transitive or causative force in the first radical, for **gab** is "high", and constitutes the biliteral base. Before the conjugation Shaphel had been formed it was anticipated here. The sonant **z** shews how at that early time the voiced consonants out of which the unvoiced were evolved, were still in possession of a fair share in the vocabulary and enjoyed an influence which was lost before the paradigms were developed.

The prefix **ya** in many verbs appears to have an intensitive force. Take as an example **yashan** "to sleep". The root **shan** means "old, languid, exhausted". **Ya** prefixed makes it a verb. Piel is the causative form "made to sleep". This is the same intensitive force which we observe in later development, in the use of **i** in the paradigms in Hiphil and in Piel. In originates in mental emotion causing the contraction of the vocal aperture to give the sound **i**. But its first appearance may be viewed as a sort of pronominal exclamation.

The prefix **wa** in the Arabic often corresponds to the Hebrew **ya**. Thus **wasan** is "sleeping or sleep". As a first radical, it has the same intensitive or causative force as the Hebrew.

The prefix **m** marks a substantive or adjective. It makes an abstract noun of any verb or forms it into a participle. Thus **makom** is a quadriliteral formed from the triliteral (really biliteral) **kum** "to stand up". In **morakh** "to rub in ointment" we seem to have **rakak** which in Pual means "was rubbed", and a prefix **mo** of which we may say it is the act of the hand, or a pronoun or an

intensifying particle. In Messiah we have **mashakh** "anoint". But we have also **nas'ak** "anoint" in Kal and in Niphal. It may therefore be conjectured that **m** and **n** are the same prefix, **n** being formed from **m** by natural evolution. From the extensive use of **m** in forming verbal nouns, (1) it stands to reason that the essential meaning of this prefix is demonstrative. The noun is the object and this prefix is the symbol of the act of pointing. It is retained as an interrogative in **mah** (2) "what" **mi** "who".

La was also a demonstrative prefix to some triliteral roots as **laqakh** "take". It is sometimes dropped and the root retains the meaning intact. Among the consonants that make up the forms of verbs, **l** is not included, presumably because it was already in active use as a negative and in the preposition **le** "to".

The prefixed first radicals **h, n, y, w, l** are all removable on slight occasions when the exigencies of conjugating require it. Surely then they are true prefixes, and are not to be regarded, although they stand first in triliteral roots, as on the same footing with the second and third radicals. When placed before the biliteral root they had already become formative particles and lost their own primeval significance whether the hand or other.

1. As in *maggefah gedolah* "a great slaughter", from *nagaf* "to smite".

2. "The letter *m* is a fragment of the pronoun *mi* or mah". Green's Hebrew Grammar, 215.

CHAPTER IX.

PRONOUNS.

The pronouns need to be considered before the conjugation of verbs and before derivation, because both the personal and possessive pronouns have been very extensively employed in the construction of the verb tree and in the derivation of words.

The pronouns would in the biliteral period have no feminine forms. The feminine forms would naturally begin when the Semitic race occupied African territory and when, the subject people being more civilized than themselves, grammatical features could be borrowed by the ruling nation. The usual principle on which feminine pronouns were made was to change the masculine form slightly at the end by affixing a demonstrative. The demonstrative accompanied the act of pointing and followed immediately after the pronoun used in the biliteral age. The feminine pronoun is of the triliteral age and the masculine of the biliteral. So also the singular is of the biliteral age and the plural of the triliteral.

The third personal or demonstrative pronoun would appear earlier than the other two personal pronouns because the person represented is often absent, or if present he is usually farther away than the first and second persons.

The pronoun, if not an interjection limited by the mind to the sense of a demonstrative, would like the hand itself receive its name from the sound produced by the hand in striking, for example, the third person or some other object. The Hebrew and Arabic have **hu** masculine, **hi** feminine. The Hebrew has **zeh**, m. **zoth**, f. The Assyrian has **su** and **ammu**, masculine. **si** and **ammatu**, femi-

nine, and the Syriac has **hoi** m. **hode** f. The real primeval demonstratives are hidden among the relatives and interrogatives. The Hebrew has **mi** "who?" **mah** "what?" The Syriac has **man, manu** "who?" **mon, man** "what?" and as relative **da.** The Assyrian **sa** for the relative agrees with the Hebrew **shĕ** in Solomon's Song (1). The Arabic relative is **allazi** and the interrogative is **ayyama,** "which?" **min, man,** from which? The Hebrew has **eifoh** "where?" **poh,** "here". The primeval pronouns are recognized by labial letters. Demonstrative, relative, interrogative and reflexive pronouns with the definite article are all words originally of one class. They are third personal pronouns or words meaning "to point". Through abundant usage they have become like old coins very much rubbed and defaced. The initial, final, and vowel, are all liable to change just as the demonstrative may become interrogative, relative or indefinite. New pronouns are not really new. They are the old pronouns modified. No new pronoun differs more from an old one than the pronouns of one dialect differ from those of another in the same age and belonging to a not very distant region. The demonstrative first appears. Let it be **ma.** This word on some early occasion became interrogative because the speaker who used it was in doubt. His doubt was attached to the word and entered the ear of the listener with this new sense. In other words "that" became "which?" The relative in the same way is a faded interrogative (2). Thus **anah** and **an** mean where? and whither? Elisha asked Gehazi from whence (**mē-an**) comest thou? The reply was "thy servant went nowhere". Literally it reads "not went servant thy hither and hither". (**anah vaanah**). Thus **anah** is interrogative and relative.

1. Sayce, Assy. Gr.

2. I have said more on the origin of pronouns in "Evolution of the Chinese Language" p. 83 to 88.

The pronouns of the first and second person are necessarily connected with pointing and their derivation from the third person is probable. **Attah** "thou" is **anta** in Arabic. **An** is however a demonstrative. So also is **ta.** In **anoki** "I" the former portion **an** is the essential part. It was the hand pointing to the speaker himself, and it was the corresponding meaning in his mind that led to the first personal pronoun appearing as **ani.** Where the pronouns of the three persons agree in form, it is an indication that they are one in origin.

In the future tense Aleph, Thav and Yod are prefixed personal pronouns with a vowel **e, o, i,** or **a.** These prefixes are thoroughly incorporated in the verb. Previously to the formation of the paradigms they would be separate words "I, thou and he". The verb in the future tense is modeled on the infinitive and imperative. Since every tense is formed with the help of some antithesis it must be the imperative with which the future is in contrast, for the compound consonant of the one is in thorough opposition to the prefixed pronoun and vowel i of the other. With the imperative, the future is linked by the fact that both contemplate coming time. The imperative is then the model for the formation of the future, but the preterite by contrast aids it in attaining a vivid distinctness. The personal pronoun prefixed to the imperative made a future because the listener became sensible that the speaker had exchanged the imperative attitude for the predictive. When this creation of the future took place the pronoun was in its natural position before the verb to which it is the governing nominative.

The pronoun coming after the verb in the accusative as a suffix is a shortened form of the personal pronoun. Thus "me" is **ni** and in the plural "us" it is **nu.** "Thee" is **eka, ka** in the masculine singular, and **āk** or **ēk** in the feminine. In the plural

"you" is **kem** in the masculine and **ken** in the feminine. "Him" is **hu** or **u**. "Her" is **āh** or **eha**. "Them" is **hem, ām, am**, poetically **āmo, ēmo**. In the feminine "them" is **hen, ān, an, ēn**. Where **n** occurs it is not a distinct root, but it has been evolved from **m**. The change in the plural from **i** to **u** is an instance in which the protrusion of the lips to pronounce the high narrow aperture vowel **u** is taken advantage of, in contrast with the high unrounded narrow aperture vowel **i**, to distinguish the plural from the singular. In this evolution the **i** was demonstrative and was adopted for the singular first. The plural mark **u** being an intelligible gesture would be selected later as an effective symbol for this use. When the plural signification came to be understood and imitated with sufficient frequency it was adopted by common consent. It would be the rounded lip chiefly that helped it to succeed. The pronoun as nominative after verbs originated in a transposition of the verb. The verb took the first place and the nominative became a suffix between the verb and its accusative. For the first person in the preterite **ti** is the suffix of the singular and **nu** of the plural. For the second person singular **ta** is used as a mark of the masculine and **ti** of the feminine. A final **t** without a vowel serves for both genders. The plural takes **tu** in both genders. For the third person there is in the singular no suffix. In the plural it is **u**.

Substantially the same suffixes are used in the future, the infinitive, the imperative and the participle.

There is no difficulty felt in employing the same suffix for the first person in both genders, and for the second person in the feminine. Sometimes for the third person the form **tiqt'elu** in the future is used instead of **tiqt'olnah**, the proper form of the 2nd person. Gesenius mentions three instances (1). The accepted meaning

1. Cant, 1, 6 *tirŭni al tirŭni* "look ye not". Jer. 2, 19. Job 19, 15.

of each form depends on the controlling purpose of the individual who introduced it and of the community which adopted it, and all its validity was acquired in this way.

The postposition of the personal pronouns may have been caused by the antithesis of the 1st and 3rd, the 1st and 2nd, and of the 2nd and 3rd persons. In saying **qāt'al** "he killed" nothing is added. But if we hear **qāt'alti** the pronoun "I" goes last because it is made emphatic by contrast. So if the antithesis is between the first and second persons we have **qāt'alta**, the killing was on **your** part. This is expressed by placing **you** last. As the Old Egyptian language has the same idiom we may suppose that it originated independently among the Semites and Egyptians, or which is more likely, it arose first among one race and was borrowed by the other. In the mind the verb is at one time more prominent. At another time it is the pronoun which attracts the greatest attention. The origin of the pronominal suffixes is accounted for by such extraordinary attention bestowed on the pronoun.

The possessive pronoun as a suffix would originate in a similar way. **Beni** is "my son" because there was an antithesis between the first person and the second or the third. **Beno** is "his son" with the emphasis on the suffix. In "son" there is no diversity to be marked. It is therefore unemphatic. The sense when continued places in a vivid light the paternity whether "his, thine", or "mine". The principle is the same as with the postposition of the adjective. The adjective, follows its noun because it defines its quality as good or bad, light or heavy, and the like. Without forming a predicative sentence the quality is appended with a demonstrative article. This amounts to a predication though it has not the form of one, there being no substantive or other verb. "Son his" is an abridgement of "this son is his". At first the adjective would

be placed after a noun in languages such as the Hebrew where qualities are sparingly mentioned. Later it would be continued by force of habit. So it was with the possessive.

The occurrence of gender in the Semitic languages and in the Old Egyptian indicates some latent connection. The mark of the feminine is **t** or **k**. In Egyptian it is **t**. **K** is doubtless changed from **t**. The mind of an individual A when addressing B could initiate gender by adopting a new mark, a pronoun for the feminine F when individuals of each gender F, M were present. When the masculine has **ā** the open mouthed vowel, the narrow aperture vowel **ī** was taken for the feminine. The visibility of the change gave it success. If the masculine had **u** as in **hu** "he", the feminine also took **ī** as in **hi** "she". The absence of rounding gave it success.

When the plural is marked by the demonstrative affix **ēm,** or **em,** the feminine takes **n** instead of **m.** Such a variation in the appearance of the mouth as a change from closed lips in **m** to closed gums in **n** was a mark sufficient as a distinction and it was successful. **Zeh** "this" is from **zet.** The feminine is **zoth.** Here the change is from Segol to Kholem a change quite easily appreciable by the person addressed. **Zoth** is from an older **zath,** say the grammarians. We are at a disadvantage in knowing only the vowels according to the points, and those which in the roots are represented by Aleph, Vav, Yod, Ayin. The principle however is the same, that the feminine is marked by a change of vowel, or of the demonstrative plural suffix **m** to **n.** The feminine force is not in the vowel or in **n** or in **t** (which also occurs in the conjugations), but in *the antithesis* between the mark of the feminine, and that of the masculine. It is the contrast in sound between **atta** and **atti** and between **attem** and **atten**, assisted by the contrast in the shape of the lips and mouth generally, that gives validity to the

distinction of gender in the Hebrew pronouns. In each case the hand pointing to the person meant secured intelligibility.

So also the marks for the plural are only capable of conveying their special force because they are demonstratives appended to the root in contrast with the marks for the singular and because the hand pointing secures that no mistake shall occur.

The suffix **kā** for "thou" is derived from **tā**. This is an instance recognized by the grammarians of an important letter change.

We see in the pronouns distinct traces both of biliteralism and of triliteralism. The marks for gender and number belong specially to the triliteral period at the time of Semitic occupation of Egypt probably under the Hyksos. Without this supposition we cannot explain the similarity of the marks of gender in Semitic tongues to those of the old Egyptian.

CHAPTER X.

DERIVATION

When the Semitic verb assumed its shape as exhibited in Biblical Hebrew it was by a continuation of the same formative forces which had first made the triliteral roots. The formative force had at first in view the elaboration of roots. It then proceeded to the production of derivatives including noun, verb, and adjective. In the last place conjugations, moods, and tenses were elaborated.

To breathe is an act which would acquire a name among the earliest words. We find it expressed by **puakh, afa^{ng}, fa^{ng}ah, faah, nafakh** and by the niphal of **nafash,** as also by **khāyah,** "live". To "be" is **hayah. Khayah** is "life". **Nefesh** is "soul". **Ruakh** is "wind, spirit". The mouth, that which breathes is **pum** or **peh. I fa^{ng}** is "breath, nothingness". **Ef^{ng}eh** "adder" is probably named from the act of breathing. Other words in the same connection are **nshāmāh,** "breath, soul", **nāsham** "breathed, pant **ed**", **nishm** "life" a Chaldee word, **nashaf** "breathed". **yafakh,** "breathed heavily". An adjective is **yāfēakh,** "breathing heavily". An angry man's breathing is **shāaf.** Anger is **af** from **af** "nose".

Breathing is the source of these words imitated originally with a labial initial and final. **N** in **nefesh nafash, nafakh, nishma** is a pronominal prefix. **Sh** in **shāaf** is intensitive and interjectional. **E** in **efa^{ng}** is a pronominal prefix as also is **y** in **yafeakh. H** is a pronominal suffix or interjection of address. The three words for mouth and nose are derived from breathing. Words for life, soul and wind are also thus derived.

The rules of derivation for nouns, verbs, and adjectives are

made plain by the points. Pronominal and interjectional prefixes and suffixes are much used to mark new words and peculiar meanings. Among the vowels which form nouns, Tsere and Segol are common, just as Qamets, Khireq, Pattach, Kholem are common in verbs, but the vowels of the verb are found among nouns and the vowels of nouns are found among verbs.

Verb forms are so many derivatives from the same root which makes nouns. The old theory that roots are necessarily verbs has been abandoned by recent grammarians. The claim of the preterite form of verbs to be considered the root may be sustained on the ground that the **a** of father, the favourite vowel of the preterite, is the source of evolution, and probably the oldest vowel. The claim of the infinitive to be the root is doubtful because it is an abstraction and therefore a derivative from a more vivid form. The participle is much used as a present tense, and yet it would be of no advantage to call it the root, because its vowels are peculiar and it usually takes a prefix **m.** There are some good reasons for viewing the verbal noun as the root, because the Hebrew verb is ultimately to a large extent a substantive. In fact all the existing words as read with the points are derivatives, and we can scarcely do better than regard the three radical letters without points as the root and refer the question back to the biliteral age to be decided there. If we do this the vowels to be supplied are **a, u, i, o,** where Aleph, Vav, Yod and Ayin are used in writing, and when these do not occur, Qamets may be provisionally assigned as the vowel. The verb is not the root but is the product of the root and through the peculiar fertility of modern forms the old fashioned substantive character of the verb remaining in the infinitive and participle has become some what obscured.

The fact that the formative letters used in verbs are also used

in derivatives and in the lengthening of roots to make them triliteral in itself proof that the Semitic paradigms were formed by a slow evolutionary process, the elements made use of being all old. The letters **h, y, t, a, m** were employed as prefixes or suffixes in the triliteral roots and in derivatives, before they were extensively put to use in conjugating. There was no need to seek new formative letters. The doubling of the second radical in the conjugation Piel to lend intensity to the meaning has its parallel in the doubling found in derivative substantives. Thus **yālad** "bore children" has as derivatives **yeled,** "a child", **yelūd,** "birth", **yillōd,** "a child", **yālīd,** "a domestic". In **yillod** the **l** is doubled as a distinguishing mark in connection with Pilel used causatively. It is found without such connection in **tsaddiq** "just". Each act of doubling a letter is a continuation of muscular force that the attention of the listener may be drawn to the word or some quality in it.

Derivation may be illustrated from the negatives. **Lo** "not" is from **da,** the pronoun, the hand pointing in the direction opposite to that just mentioned, the affirmative. **Al** is the same with the letters transposed. **Bal, beli,** used in poetry are an old pronoun made negative by the hand pointing in an opposite direction to denote the negative meaning in the mind. The same explanation must be given of **pen** "lest". **efes',** "no more". They are a demonstrative **pen** or **pet.** **En** (1) "not" with Alef, Yod, is a demonstrative **an.** In **t'erem** "not yet, before" we find a verb root, says Gesenius, the same as **t'araf** "cut off". Hence the sense "beginning". The adverb **t'erem** he derives from this substantive. The aid of the hand in pointing was essential in the formation of all the pronominal negatives.

Planting our feet as observers on biliteral ground we find the

1. *I* "not" spelled with Alif yod and used by poets is abbreviated from *en.*

Semitic roots taking the shape **ab** "father", **am** "mother", **ak** "brother", **qat'**, "kill", **qum** "rise", **bin** "distinguish", **ngets** "tree", **ben** "son", **bat** "daughter", **esh** "fire", **da** "this", and the like. While these roots were in course of evolution from the labial consonants and primeval vowels we ask what laws controlled them. The consonants changed from labials to dentals, palatals, and gutturals. The vowels changed from low to middle and high, from back to front and intermediate, from close to wide, and from unrounded to rounded. While these changes were proceeding ideas were always rising to the controlling mind. In wordmaking the mind, always active, sometimes worked by antithesis or contrast, at other times by imparting increased emotion. It might be an idea of pointing in some direction. For antithesis to any word a vowel of an opposite nature to the vowel found in that word would be used. For increased emotion and determined purpose vowels possessing the most muscular intensity were likely to be employed, as also repeated consonants. Verbs are more emotional than nouns or adjectives, and on this account those vowels are preferred in verbs, which need the most muscular force and the greatest closeness of aperture. Substantives are uttered without emotion and adjectives also, and as to the other parts of speech they are all, excepting interjections mere abstractions faded down from concrete roots. The verbs of Semitic languages contain traces of certain laws of selection among vowels. But it is not to be expected that they should be so plainly visible among biliteral derivatives as among triliterals.

In order to show that the vowels are scattered among the roots without much appearance of selection on the ground of their being intense or lax, round or open, a few examples are here given.

Sign, **āth, ōth, ōveth**; "make a sign" **awah** for **āwāth**. By

reading final He as Thav, which there is good reason for doing, this verb with **āth** and **ōth** may be identified with **yad** "hand". **Th** is from **d** and it is the hand which makes signs. The hand itself is forgotten, but its name is attached to the sign which it makes.

Self, **ēth, ōtha, ōthānu** "you yourselves" **ethkem.** This word too is a derivative from **yad,** because the hand points and gives its name to the object while it is itself forgotten.

Man, **ish** for **insh.** Woman **isshā** for **insha.** The **n** may be an old insertion and **sh** may be taken for **t.** If this supposition be correct these words also are probably derived from pointing. The word for man may have originated just as demonstratives originate from the hand. While the speaker's hand points, the mind of the listener assigns the sense man to the sound uttered and adopts it as a mark.

Foundation, **yes'ōd, yes'ŭd, mūs'ādāh, mūsād, mas's'ad.** The verb is **yās'ad.** Since to found is a human act the origin of the root may be in hand, the name of which is transferred to the act and to its result, because we first see a hand at work and then the effect of the working. Hence **yad** is the real root. The five derivatives have all the appearance of origin in the triliteral age. For they consist of two or three syllables and the vowel **u** is participial and passive.

Let it be considered how inseparable gesture is from language at the beginning. The speaker points to a man and at the same time utters a sound. That sound will be the verb to point, or the pointing hand or the demonstrative. We may say it was all these until the time when the reason separated them and assigned to each its distinguishing sound. The listener sees the man on turning to look in the direction pointed out, and accepts the uttered sound as a word symbol for the object. By multiplication of instances and

the process of fading down which is always operating to dissipate each perishable element and leave only what is valuable, the individual object becomes a species **man**.

Again the speaker points to a man laying a foundation. The listener turns and receives as a picture the bent form of the agent, and his hands at work. He thinks out for himself without effort what the result will be. Reason aids him to select from the complex picture before him with the help of the speaker's gestures the one idea **found, founder, foundation,** and it becomes the work of many generations to separate these particulars present in the complexity of nature, and furnish them with the clear distinctions required in human speech. This is done by a succession of acts of selection and the assignment of a difference in sound to each. In later times the derivatives from the root, all in this way by the national act, take their places in the vocabulary. The form of the Semitic root **yasad** suggests strongly that when this long process of derivation commenced it was either the hand **yad** or **yarah** "pointed" which formed the basis for the word. It does not much matter whether it was the hand or the verb to point, for they are originally one. But it is very important to know that there are no roots in Semitic languages for "found" except such as are explicable as derivatives gradually formed in this way by a succession of slight changes from words already in use during a long period.

CHAPTER XI.

GROWTH OF THE MOODS AND TENSES OF VERBS.

When the Semitic paradigms of the verb were evolved it is remarkable that little or no help was derived from the Indo European system of conjugations. This fact is so much the more notable and important because of the similarity of the Turkish and Mongol verb to the Indo European. Thus the Sanscrit **admi** "I eat" is in Mongol **idemoi,** and **moi** serves in part the same purpose in Mongol that **mi** does in Sanscrit. It is a decayed pronoun used as a present tense suffix in order to give to the infinitive **idehu** the indicative mood in the present tense. But it differs from Sanscrit in being used for all persons singular or plural. This is a much closer approximation than we find in the Semitic which has properly speaking no present tense though it has a past and a future, and expresses the present roughly by the active participle.

Yet there are some points where the Semitic is nearer than the Mongol to the Indo European mode of conjugating. It has for example different marks for genders, while Mongol and the languages of its family are wanting in such marks.

The triliteral roots were formed as has been shown partly by the use of the prefixes found in the four conjugations Niphal, Piel, Hiphil, and Hithpael, of Hebrew grammar and in those of the grammars of other Semitic languages.

From this point in the evolution the Hebrew mind proceeded to construct its paradigms assisted as it would seem by the Old Egyptian at some period long before the days of Abraham and

Joseph. The Semites were shepherds and would willingly adopt the ideas of the civilized people of the Nile valley.

Professor Sayce says "a relationship of some kind certainly exists between the Old Egyptian of the monuments and the Semitic group, since the grammatical agreement is most striking, though the disagreement in structure and vocabulary is equally striking", In Egyptian "as in Semitic, the feminine is denoted by an affixed **t** which may also precede the noun, there is a construct genitive, and the personal pronouns also bear a remarkable resemblance to the Semitic ones" (1). "There are several conjugations, four formed by reduplication, one by inserting **t** within the root as in Semitic, one by inserting **n**, and **r**, and one by prefixing **a**. There is lastly a causative formed by prefixing **se**" (i). Coptic and Libyan share with the old Egyptian in some of these grammatical features. But through a strong African influence the affixes in old Egyptian have become prefixes in Coptic. "In Libyan also the Semitic **t** is the sign of the feminine".

These extracts are in place here because they bear on the question were the Semitic verb paradigms entirely self evolved. When two races have joint occupation of a country grammar laws may be borrowed by one from the other through the prestige, acquired by official countenance, intermarriage, educational institutions and the custom of society.

These causes operate sometimes powerfully, sometimes feebly, to change grammatical laws in the weaker of two races. The Saxons were too strong to receive much impression from French eight centuries ago, but the dropping of the **h** in words of French origin led to its being dropped in Teutonic words also in the vulgar English of the present day. The number of borrowed French

1. Science of Language vol. II. p. 178, 179.

words in English is an example and gauge of the force of the borrowing principle. Appetite for knowledge favours the borrowing of words. Race instinct and national pride oppose the borrowing of laws, and hence laws are less borrowed than words. Laws however, that is to say grammatical features and principles, may be quite easily borrowed when culture is predominant in the lender and race-pride weak in the borrower.

We ought to regard the similarities in the grammar of old Egyptian to the grammar of the Semitic languages as the result of joint occupation, intermarriage, education and official prestige at some distant period. Egyptian culture had so great an influence over nomade instincts in the age when the paradigms were growing that, according to Professor Sayce's showing, both in general plan and in detail the resemblances are striking in Egyptian and Semitic paradigms. The **t** for the feminine also is a most convincing circumstance, when we consider that no such feminine suffixes or prefixes exist in the Ural Altaic or Chinese languages. The same is true of the construct genitive. It is unknown in these languages. The civilization of the Nile and the Euphrates had a great effect in pushing forward the growth of words and brightening the human intellect. It is not possible that the result should be entirely out of sight. The mental activity of past ages is in fact petrified in the grammatical forms and vocabularies of languages. The intellectual life of the Nile valley had a share in moulding Semitic grammar into the shape in which it is presented to us in the literature of the Semitic nations, and that share does not appear to have been a small one. Just at the time when the triliteral roots were sufficiently advanced in their formation the impact of Egyptian influence gave some special tendencies to the Semitic mind which resulted in the grammatical principles of Semitic verbs and nouns.

Kal with its tenses would be the first conjugation formed. The meaning of Kal is "light, nimble footed". In contrast with it the *heavy* conjugations exhibit intensity and emotion. When a verb is not laden with special tendencies and forces it is known as Kal, which is therefore the ordinary verb.

The Kal verb may be transitive or intransitive. **Qāt'al** "be killed" **kābhad** or **kābhēd** "was heavy" are examples of these two sorts of verbs. The change from **a** to **e** marks the loss of the transitive force.

Any verb such as **bākhan** or **bākhar** "examine, test. purify", if not spoken with emphasis or accompanied by mental intensity, would keep the old vowel **a** in both syllables and be in the *preterite* tense. The open mouthed **a** is suited for use in verbs when mental intensity is absent. Thus the preterite originated. Words like **khus,** "protect. pity", **mul** "to circumcise" changed their vowel for **a** in a preterite sense, after the preterite had become well established in verbs with **a.** The vowel **a** became a sign of the past in roots having this vowel, and when **a** had acquired a past signification, all verbs having **u, o,** or **i** as medial vowels changed that vowel to **a,** whenever the speaker wished to use the verb in the preterite. When **kum** became **kam** and **bin** became **ban** with a preterite sense it was in imitation of the existing preterite in verbs having **a,** which would be established in use first. Sometimes the second vowel is long **e** or **o** instead of short **a.** This it is observed is when the sense is intransitive. The mind changed **a** to **e,** because the verb was peculiar in not being transitive, and this peculiarity needed some mark.

When the mind abandons the preterite attitude and assumes that of will and of determination the lower jaw rises, resulting in the *imperative*, which has the vowel **o** in almost all verbs. The

rounding of the lips to form this letter makes **a** sufficient variation from the open mouthed **a** to mark with clearness the complete change of attitude from indicative to imperative. But long **e**, long **i**, short **a**, short **e**, short **u** are also seen occasionally in the paradigms for the imperative. These vowels have one common characteristic, viz, they are formed by contracting the mouth aperture and this contraction is caused by the entrance of the will into the idea of the verb. Command, if most often expressed by **o**, may also, when requisite for variety, be expressed by **ē**, **a**, and other close configurations of the mouth.

The imperative is also characterized by brevity, and as far as possible is a monosyllable. This suits the mental attitude, and is caused by that attitude. In Syriac the preterite is also monosyllabic **qt'al**, while the imperative is **qt'ul**.

The *infinitive* has two forms. The oldest is perhaps the construct and the absolute may be formed from it. The construct infinitive is usually the same as the imperative. The first two consonants in the root are conjoined with Shva, and the second syllable usually takes **o**. The absolute infinitive is dissyllabic and has long **a** for its first vowel. A verb in the infinitive is a noun and takes prepositions before it. The verb in action must be viewed as the concrete form and the noun or infinitive is abstract and unemotional. The imperative is the most vivid of all moods and it became therefore the type from which the infinitive was formed. The abstract is naturally the offspring of the realistic and consequently the infinitive cannot be original. But the infinitive absolute so far rests upon the preterite as its base that it takes the back looking and passionless **ā** for its vowel in the first syllable, while Pattakh occurs in Gen. 34, 7, **Shĕkab**, "to lie", in the second syllable.

The real base of a Semitic verb is the biliteral root, but as to

form it is the imperative. Not only the infinitive construct springs from it. The future is a derivative from it also.

The *future* is a special modification of the imperative, caused by the change of command to prediction. In the future tense the prefixes **a, t, y** are used for the 1st, 2nd and 3rd persons. They are without doubt pronouns and constitute a generally recognized instance of agglutination becoming inflection. These letters are prefixed to the imperative. This union takes place because the future and imperative are naturally akin. An imperative is a prediction when the command is obeyed, and if not obeyed it was expected to be so, and the form is based on the expectation. The two conceptions are in Semitic thought joined inseparably.

The formative letters **a, t, y** constitute the root into a true quadriliteral formation. They are added to the triliteral root as the first or third radical in the triliteral root is added to the biliteral.

The *participle,* active and passive, is a noun as is indicated by the pronominal prefix **m** in all the conjugations except Kal and Niphal. The active participle, **Pōēl,** is intended to be in opposition to the imperative, infinitive, and future, for the vowel **ō** is removed to the first syllable, and **ē** or **e** is used in the second syllable to make a clear contrast. The passive participle Pual is intended to be in opposition or contrast to the active participle for it has **ō** and **ā** for its first and second vowels.

The participle is frequently used merely as a noun derived from the verb. Thus **maskilim,** "persons skilled in any art". The **i** denotes the Hiphil conjugation. The prefix **m** is a pronominal mark of a verbal noun. Gatekeepers are **shoⁿgarim,** the participle of **shaⁿgar,** "keep a gate" from **shăⁿgăr** "gate". The verb here is of substantive origin.

The active participle is exemplified in an instance such as

habbaim "those who came". Here most plainly the participle is a modified noun having the plural suffix **im**, belonging to nouns. But Hebrew grammar regards it as a participle. In Greek **ho erchomenos** "he that should come" in Matt. 11, 3 is similar in idiom. The resemblance in the article followed by the participle cannot be altogether accidental.

The active participle often represents the present tense. Thus **Lākhats** "he oppressed", **lakhats** "oppression", becomes **lōkhats** "oppressing", and in Ex. 3, 9 **lokhatsim** has the force of a present indicative, "with which the Egyptians oppress them". But all tenses may be found expressed by this participle.

The passive participle has the sense of the Latin participle in **ndus** as in amandus "to be loved".

The various tenses and moods are representative of a succession of opposite mental states. The opposition is exhibited by nerve force put out in such a way that a new state is in antithesis in each new instance to the preceding state. The old biliteral verb in the past tense, represented by **ā**, is the original state. With it the evolution commences. The first state in contrast with it is the imperative. The mind adopted **o** as the mark. The nerves and muscles had been at rest comparatively, when **a** was heard. The excitement incident on some mental emotion so operated on the nerves connected with the vocal apparatus that the effect became visible at the lips and audible to the ear. A new shaping at the lips was communicated to the verb, changing the **a** to **o**. The state expressed by **o** is imperative, precative, optative or permissive. The physiological base of the imperative is the excitement in the mind caused by the act of volition.

The chief point in the evolution of the future from the imperative was the prefix of old pronouns. But there was a new

excitement, that of foreseeing, which took the place of the excitement of volition, and so operated as to change the compound consonant at the beginning of the imperative into a syllable with the intensitive vowel **i**. This became the connective of the pronoun with the root. In this way a predictive tense was made. But the future sense is not inseparably attached to this new formation. It may be modified if the mind so pleases.

The formation of the infinitive was not necessarily later than that of the future. In the biliteral age and in the early triliteral age the verb would need to be treated as a substantive. The infinitive is a faded imperative. Its energy has disappeared while the form remains. In consequence of this, no special nervous excitement impelled the muscles to form new vowels. The imperative was adopted as a verbal noun. But after a time the force which kept **q** and **t'** together in **qt'ol** relaxed and the unenergetic **a** was employed to make a first syllable in **qatol**. This was the origin of the infinitive absolute.

The participle, another form of the verb noun, was developed with more of individuality than the infinitive and would be naturally later. In the infinitive the old root became an abstract noun. In the participle the verbal noun was still in an energetic state. That which led the mind to form the participle would be chiefly the antithesis between the verb noun we call the infinitive, and the more energetic noun which we have in the Hebrew participle. The active participle was therefore formed chiefly by removing the vowel **o** to the first syllable. An **m** was prefixed as an additional distinctive mark in all the conjugations but the first and second. This prefix was already in use among substantives, and it served to attach to that class of words all the verbs. The substantives were afraid of losing entirely their old companions the verbs. By ticketing

them with this letter **m** they retained them in their ranks by a mark that could not be mistaken.

The last antithesis in this series is that between the active and passive participle. The mind changed the active to a passive by using new vowels. Thus **a** took the place of **ō**, and **ū** of **ē**. In both cases the change was not difficult of success because it was visible to the eye as well as audible to the ear.

No models were before the mind in creating these moods and tenses except those of the Egyptian language, so far as we know. But the greater part of the energy exerted would be Semitic. The help derived would be by suggestion and imitation merely.

The old biliteral language was too limited. If had proved sufficient for early nomade days. A new age of agricultural and commercial civilization had dawned, when new wants were felt and new knowledge had been acquired. The mind was naturally excited to extend the region over which the language roamed and this would be the way in which it was done.

CHAPTER XII.

GROWTH OF THE CONJUGATIONS.

Every family of languages connected with each other like the Romance languages of western and southern Europe, has sprung from a common mother such as the Latin, by slow steps and almost imperceptible modifications.

So it would be with the Semitic family. Peculiar as are its conjugations they do not pass beyond ordinary linguistic experience. They appear to have been developed quite naturally out of pre-existing types perceptible in the triliteral roots. In those roots we find the passive mark **n**, the causatives **h, a, sh,** all in existence as prefixes to verbs in the germ. In the same way it may be shewn that since the grammatical ideas attached to all these prefixes belong to languages having biliteral roots, that is to say those which are usually called monosyllabic languages, the chasm between a language of triliteral roots like the Hebrew and such languages is not so wide as would at first be thought.

Gesenius and others represent the conjugation Niphal as first reflexive and afterwards passive. It also sometimes expresses reciprocity. It prefixes **n** or **i**. It frequently doubles the middle radical. It prefers for the 1st syllable the vowel **i** which is naturally the vowel of deep emotion and for the 2nd Tsere, expressing less intense feeling. Gesenius identifies **n** with **hin**. The feminine pronoun **hēnna** means "they themselves". **Nikham,** "take pity on, be grieved", is allied in lexicons to **nakham** in Kal and we have the nouns **nokham, nekhmah, naḵham,** all meaning compassion.

But **khamal** is also "to pity" so that **n** is not only a reflexive prefix but the first radical in the triliteral root. Such an example seems to show how the prefix **n** grew to be the distinguishing mark of a conjugation. It was a pronoun with the sense "self", and in this form entered the triliteral root as a radical (1). Afterwards it changed the reflexive force for a passive force and was placed as a conjugation mark before many verbs which previously never began with **n**. The demonstrative **an** may well be the parent of the **n** of Niphal. It occurs in **anta** "thou". If so then **an, hin** will be common founders of this conjugation. The middle voice changes easily into the passive because it is already subjective *i.e.* subject to agency from some source. The idea of self may be forgotten. Then the thought of being operated on from an external source may readily enter. Thus the transition is made to a passive.

The conjugation Piel is chiefly intensitive. The origin of intensitive grammatical forms, whether in the derivation of nouns or verbs, is in a new warmth of emotion enkindled in the mind which seeks to find permanent expression for it in words. A word from which freshness has faded is then revivified in some way, for example by doubling a consonant or by changing **a** to **i**. Such is the origin of Piel. It doubles the middle radical and changes the long **a** in the preterite of Kal to **i** and the short a into **ē**. The intensity may be put forth in the way of transitive action, or by causing action in others when it becomes a causative. Occasionally it is inverted and becomes passive or the subject of transitive action emanating from others. This last is the so called conjugation Pual of which the mark is **u** in the first syllable, and Pattakh, **a**, in the second. The vowel **u** being visible in the rounded lips naturally

1. The four Syriac passives are all formed by prefixing *eth* "self" to the ordinary, the intensitive, and the causative verb.

suits a passive sense which means a complete reversal of the action.

The active participle or present tense of Piel takes initial **m** and as its vowels Shva, Pattakh and Tsere. In Pual the participle has Qibbuts and Qamets. In the infinitive, imperative, and future of Piel short **a** is used instead of short **i**. The vowels **i, e, a** are all of the front series, and their aperture varying, they are of three degrees of intensity. This the table of vowels in p. 29 explains. In Piel the chief sign of intensity is the doubling of the middle radical, and the vowels occupy the second place in importance. But the persistence of **u** as the sign of the passive through all the modes and tenses of Pual in the regular verb is very remarkable and can only spring from its suitability in the way of gesture to be the opposite of the active **ā**. When the letter **r** is second radical **u** becomes **o** because **r** is not doubled in Hebrew and while the tip of the tongue in pronouncing **r** is in suspension below the upper gum, sympathy draws the lower lip down sufficiently to change **u** to **o**. So in Piel before **r** the letter **i** becomes **e** and short **a** becomes long **a** for the same reason. R is like a vowel in respect of having the mouth rather open with no tongue contact. Tsere as an intensitive vowel is scarcely less efficient than Khireq. In Syriac (1), the chief vowel in the Pael conjugation is Revotso, which is the Hebrew Tsere. Hiphil is a causative conjugation formed with **h** and the intensitive vowel **i**. This vowel may be the symbol of intensity or of causation indifferently. Short **a** is also used for **i**, and in Aramaic and Arabic **a** alone is used. In the paradigms of these two languages Alef occurs for the Hebrew He, and Pattakh its vowel alone conveys the causative sense. Since the vowel **i** is more energetic than Pattakh, the Hebrew evinces here a less tranquil and more urgent emotion than do these two languages. The Aramaic name

1. Qā t'ēl with accent on *e* is the form of the Syriac intensitive conjugation.

Aphel may be Hiphil without the letter **h** which has been dropped. It is most likely a pronoun (1) but may be the **kh** of **khazaq** "strengthen", in Piel "heal, assist" for He is often a weakened Kheth. The prefixes **a** and **h** are causative in triliteral roots, and it was from this germ that the Hebrew race proceeded to develop the causative conjugation in the paradigm of the verb.

The use of Hiphil is to give a causative force to Kal, or if Kal be intransitive to make it transitive. It has a passive Hophal in which short **u** or Qamets Khatuf is used.

If is very characteristic of Semitism to take a word like **Shoresh** "root" and form from it a transitive and causative verb as **shērēsh** "eradicate" **shorēsh, hishrish** "put forth roots". Such was the effect of the exercise of the faculty of grammatical creation So with **qadash** "was holy" or **qodesh** "holiness" or **qadosh, qdosh,** "holy", different forms of one root, if we say **qiddesh** (preterite), or **qaddesh** (imperative) we impart a transitive sense "he sanctified" or "let him sanctify" to the thought.

Usage connects with Hiphil as with Piel the notion of productive energy or the quickening of an intransitive into a transitive and this it does by a change in a vowel or prefixing a pronoun or doubling a consonant (2).

We had an operation of the same kind in English when **thin** became a transitive verb, e. g. **to thin** a flower bed. The Germans say **dünnen** for the same thing. By adding **en** they make a biliteral root into a triliteral, as we also do when we wish to use the word **thick** as a verb and say **thicken** which is transitive or intransitive as we please.

1. The alternative form Tiphel supports the view that *h* and *a* in Hiphil, Aphel, are pronominal.

2. Green's Hebrew Grammar § 82, 2.

The conjugation Hithpael has a reflexive signification. The prefix **hith** is the same with the reflexive pronoun **eth.** The Chaldee has **ith,** the Syriac **eth.** Eth khabbar "allied himself with" is said of Jehoshaphat in II Chr 20, 35. This is Aramaic so that **hith** is no doubt **eth** "self", the initial **h** being in Hebrew more commonly heard, while the form with **eth** was used occasionally.

The force of the Hithpael conjugation is reflexive or reciprocal, or it expresses what any one does for himself. It may be passive also. These differences in the meaning show how many modifications the prefix of a single pronoun can make in the force of one conjugation. Changes in the signification are not originally in the power of the root as such. It is the mind that gives the new sense, with the help of the pronoun, and decides on the word symbol that is to be used in each case.

The operations briefly presented in this chapter belong to the civilized period when a nomade race came into close contact with nations engaged in the pursuits of agriculture, the useful arts, and primitive philosophy. The contact would require to be a close one not quite like that of the Manchoos in China who now speak the Chinese tongue and only learn their own language as a school exercise, but it would still need to be close enough to allow of a strong, marked, and long continued influence. The ruling people having their intellect brightened by daily intercourse with their civilized subjects developed their Semitism with greater rapidity than before. It became much more peculiar under this training, and the extent of the peculiarity as we see it in the languages of Semitic nations, is in proportion to the energy called out by the new conditions under which through conquest they formerly lived.

CHAPTER XIII

SUBSTANTIVES AND ADJECTIVES.

Substantives and adjectives may often be reduced to a simpler form than that which is represented in the current writing. In **arets** "earth" we drop **s** as an addition and **a** as a prefix. We then change **r** to **d** and obtain **det.** By dropping **ts** in **Tsedeq** "righteousness", we have **dek** "just". **Gibbor** "hero, man" is from **gib,** "high". **Daiyag** "fisherman" is from **dag** "fish", **iy** being inserted.

Nouns are made from verbs by prefixing **m, y, th.** Thus **midyan** "contention, law suit" from **din** "to judge". Mappal "chaff, that which falls" from **niphal** "fall". **Tirosh** "new wine" from **dush** "trample down", **t** being formative.

Segol is often repeated in dissyllabic nouns. This being the wide, front middle vowel, with expansion of the back of the mouth, (1) it is not intensitive like Tsere and Khireq. It is on this account that it is very much used for nouns, e. g. **derɔk,** "way", **kes'ef** "silver".

But the antithesis of agent and act often needs to be expressed by the vowels of nouns. Thus, we may have the closed front Tsere for the act in **khēt'** "sin" and, for the agent, the wide low front Pattakh with the 2nd radical doubled and followed by Qamets, in **khatt'ā** "sinner". This root has Aleph for its 3rd radical and when the thought needs to be still farther limited, it becomes **khatt'ath,** in which a demonstrative **th** is appended. For this the meaning in Leviticus is "offering for sin". The sense "punishment, misfor-

1. Or close, front, low of Sweet.

tune", is found in the prophets and in Proverbs. For "a sinner" in the feminine He occurs as fourth consonant. **Nāqām** "vengeance" has the open **a** without intensity. The verb **nākam** "took vengeance" has the intense **a**.

A passive signification attaches to adjectives with **ī** or **ū** in the last syllable as **bakhur** "chosen", **nakhush** "made of brass" (1). These are adjectives in participial form. The vowel **u** is here employed in modifying the meaning of **nekhosheth,** "brass", Chaldee **nekhash,** just as if it were a verb. The feminine is **nakhushah** as in **dalthoth nekhushah,** "gates of brass". It was, not the purpose of the mind to limit the expression of a passive sense by the use of **u** to verbs. The word might be verb, noun, or adjective. If it would bear a passive sense the mind proceeded to assign it by a mark. The vowel **u** was preferred because it is in contrast with the close front **e** of the active participle **bokhēr**.

An intransitive sense is attached to adjectives when the last of two vowels is **ā, ē,** or **ō,** Qamets, Tsere, or Kholem, as in **qāt'ān, qāt'ōn,** "small" **dāshēn,** "fat" (2). These vowels are in antithesis with the transitive Pattakh of the preterite. This short **a** is short in quantity because the object immediately follows it, and **a, e, o,** are long because, being intransitive with no word to follow, the stress of the voice must rest on them.

The participle makes many names of agents. **Oyab** "one who is opposed, enemy". From this is formed with a feminine suffix **ēbāh,** "enmity". The muscular exertion of **ō** is relieved by the substitution of Tsere when the accent is on Qamets in the last syllable. **Shur,** "layer of snares, enemy" from **Shur** "to go round, lay snares".

1. Green. Hebrew Grammar p. 210.
2. Green p. 210.

In nouns some vowels are changeable and others immutable. Alef, Yad and Vav when they occur as radicals usually cause the vowels written under them to be immutable. Mutable vowels are like servile consonants. They are used in forming new derivatives. We may regard vowels which change readily as the vowels of the triliteral age. So also we might call the immutable vowels, as **a** in **ab** "father", the vowels of the biliteral age.

When adjectives are arranged in opposite pairs as light and heavy, bright and dark, they exemplify the action of antithesis. The mind is under a necessity to look at things as opposite to each other in order to obtain clear thought regarding them. But such opposites are always from different roots. The tendency to compare opposites for the sake of distinctness occurs in every stage of development, from the elementary sounds of which roots are made up to the finished literary compositions of a learned age. The antithesis between opposite adjectives tends to attract the stress of the voice from the subject to the quality.

The practice of doubling letters to intensify the meaning existed in early times, in the nouns as in the verbs. Thus **zikkaron** is a memorial from **zakar** "to remember". **Piqqēakh** is "wide open" from **paqakh**. The 2nd and 3rd radicals are doubled in **peqakh-qōakh** "complete opening". The 3rd radical is doubled in **ra^{ng}anan,** "green" and here the process is that of lengthening, from a pleasure felt in dwelling on the idea as in our diminutives of endearment.

The vowel **a** is prefixed to intensify as in **akzāb** "utterly deceitful" from **kāzāb,** "a lie" **kāzab** "he lied". The pronominal **th** and **y** are prefixed to modify the sense as in **tirosh** new wine said to be from yarash "to seize, occupy" as if to say "the capturer" but really from **dush** "to trample down", It is "that which is trampled

out". **Teman** "the south", a specialized sense from **yamin** "right hand", because the Semitic race in naming the cardinal points looked to the east. **Yarib** "adversary" from the root of **rib** "contention", **rub,** "strive", **hērib** "stir up strife", **meribah,** "strife".

The affixes **on, an, i, uth** are found in many adjectives and substantives. They are remnants of pronouns. The root **ābāh** "be in want" has as derivatives **abui** "poverty", **ebyon,** "poor", **abyo-nāh** "appetite". Tribes were designated from some ancestor and the vowel i was affixed to the name, as in **Khitti,** Hittite.

Gender is a particular instance of derivation. The feminine takes final **t** which is often changed to **h** and in Aramaic to **a.** Final **t** is a pronoun which is simply an audible symbol for the act of pointing. The speaker pointed at a woman and the demonstrative pronoun which he uttered at the same time became the suffix of the feminine.

The style of the Pentateuch differs from that of Joshua and all the succeeding books of the Old Testament in using the masculine pronoun **hu** for woman as well as man and the masculine form **naⁿgar** for "boy", uniformly for "maiden" also. From Joshua onwards, **hi** is the feminine for the pronoun "she" and **naⁿgarah** for "damsel". This shews that in the time of Moses and Joshua the long period during which the feminine forms were growing to their present shape came to its end (1). There is also an instance in the book of Ruth which is the last.

Beside giving a feminine suffix to substantives naturally feminine, the Hebrew race made the eye, the ear, the hand and other parts of the body in pairs all of them feminine. Tooth, bone, finger,

1. Another old form in the Pentateuch is Lev. 23, 40 *Kappoth tĕmārim* "palm branches". In Isaiah and Job, we find *Kippah.* The Pentateuch has the more archaic word.

sun, flower, names of cities and countries, are feminine. Moon, end, boundary, shadow, and names of rivers and mountains, are masculine.

As a rule all nouns are masculine. Those which are feminine are exceptions. There are many words in which the gender is sometimes masculine and sometimes feminine, shewing that the extension of the principle has been by no means thoroughly exhaustive (1). The absence of uniformity in the use of genders is remarkable.

The Semitic mind certainly made great efforts to render the feminine permanently distinct from the masculine. 1. Very many feminine words have a special ending **ah, ath** for which purpose Qamets, and a demonstrative were used. 2. The second personal pronoun changed **a** to **i** to express the feminine. Narrowness of aperture would be the ground of success in the adoption of this vowel. The same is true of **hoi** and **hi,** "she", in Syriac, the forms which accompany the masculine **hau, hu** "he". So in Assyrian **atta** becomes **atti** to form a feminine. 3. In the third personal pronoun **hu** becomes **hi** to make a feminine, that is, the lip ceases to protrude, and the high narrow voice aperture is retained. 4. The plural **im** becomes **oth** for feminine nouns. Both these suffixes are demonstrative. **Oth** was masculine before it was feminine, but gradually came to be used for the feminine as a distinctive mark apparently because **th** was already in use as a feminine termination; for this circumstance would help to give currency to **oth** as a feminine suffix. 5. The final **m** in **attem** "ye" is changed to **n** for the feminine. The same change occurs in **hēm** "they", this form

1. *Oth* for "sign" is masculine in three places in Daniel, in the Chaldee portion of that work. The feminine plural *othoth* occurs more than twenty times in the Old Testament. For "this is the sign" the feminine pronoun *zoth* "this" is found less often than the masculine *zeh*. In Syriac *oth* is feminine.

becoming **hēn** for the feminine. 6. Feminine nouns occur in **ith** and in **uth,** and their plural in **yoth,** and in **uyoth.** The selection of **i, u, o** for this purpose is to be traced to the visibility of these vowels on account of the narrowness of the aperture, and the protrusion and rounding of the lips when they are pronounced.

The result of this long continued effort to secure a difference in gender in nouns has not been uniformity, nor does it extend to the first person in pronouns and verbs. The speaker whether man or woman does not modify **anoki** "I". It is the same for both sexes. Nor does the honorific principle changing words according to the rank of the speaker appear in Semitic speech. The difference made in gender is intellectual only, and can be viewed as more ornamental and poetical than really useful or necessary. It is apparently of Egyptian origin.

The distinction of *number* is like that of gender produced by adding a pronoun. **Ab** "father" becomes in the plural **aboth. Mai** "water" becomes in the plural **mayim.** This fuller form becomes **mei** in the construct state (and meimei very rarely) with a noun following. The efficiency of the pronoun is aided by the vowels **o** and **i** which have considerable visibility. In the shorter construct form the syntax being plain and uniform a less distinct suffix is sufficient for intelligibility. The suffix **oth** was gradually applied to the feminine after being first used as a plural mark independent of gender. This we know by the fact that it is employed for the plural of the primeval word **ab** "father". Since the suffix **im** is also occasionally used with feminine nouns to form their plural the law of evolution becomes quite plain. There is nothing of peculiar aptitude in **oth** or in **im** on account of which they could claim to be used as marks of the feminine. It was solely the office of the mind to assign the feminine sense to **oth** so that it ultimately abandoned its character

as a common suffix independent of gender, and became the favourite feminine termination for the plural. This gradual acquisition of a feminine sense was effected by the multiplication of individual instances. The rule never became absolute. The oldest Hebrew has the feminine less defined than the later. Lights in Gen. 1, 14 M. **meoroth** and "aprons" in Gen. 3, 7 **khagoroth** are masculine nouns. Yet they take the feminine **oth.** In Ezekiel the word "lights" is **meorei,** the construct of **meorim** (1). The ordinary word for light **ōr,** is masculine, with a plural **Urim,** and in the Psalms there is a feminine **orah,** whose plural **oroth** occurs in II Kings.

There is a dual form of the plural as in **ēnāyim,** "eyes" **yomayim** "two successive days". The dual is in fact a plural lengthened by inserting **ai,** as in **shesh kenafayim** "six wings" where, if the form were really dual, "three" would need to be used for "six". The selection of the vowels **ai** is apparently on account of their intensive character. This gives more distinctness to the form, an aim which the mind has ever in view. There is no great utility in the dual except the variety of form and appearance of richness which it gives. This is to some extent a help to the rhetorician but not to the poet, because syllables which are merely formative have no realistic colour and therefore add nothing to the beauty of a word-picture.

The development of case in Hebrew nouns is limited to what is called the construct state, and the paragogic He used as a suffix **Ben adam,** "son of man", is an example of the construct state. Tsere becomes Segol. This change of vowel accompanies a constant

1. If, as some assert, the whole of the work of the first Elohist is post exilian, one would expect to find Ezekiel's plural in Gen. 1, 14. This is but one of many instances of archaic language in the Pentateuch. Judged by the language the Pentateuch is much older than the time of the prophets.

law of order which requires the noun in the genitive to stand last. The noun in the genitive qualifies the nominative and takes the accent on that account. The loss of the accent leads to a change in the vowel from long to short and from open mouth vowels to those of narrow aperture. Thus **yād** hand is **yad** in construction. **Zākēn**, "old", becomes **zeken.**

A case suffix **ah** follows many nouns to denote direction towards a place. **Negbāh** "to the south", **shamaimah,** "towards heaven". This is in fact a pronoun placed after a substantive to indicate direction of motion. The same pronoun is found as **th, t,** or **h** at the end of many nouns as a mark of derivation, and a sort of nominative and accusative case suffix. It is the beginning of a declension of nouns not destined to be completed. "Direction to" would in the first instance be suggested by the circumstances, but when the suffix had become established in use the idea of direction would be permanently attached to it.

A prominent feature in Semitic nouns is the system of possessive suffixes. "My" is **ī** or **ai.** "Our" is **nū** or **ēnū.** Thy is **kā,** m. and **k,** f. Your is **kēm** m. **ken** f. His is **ū, hū, ēhīo, ō, ōh.** Her is **hā, āh, eha.** Their is **hem, ām, āmo,** m. and **hen, hēn, ān,** f.

As previously remarked, the possessive suffix as in **s'ebhibhothav,** "his environments", **maginni** "my shield" originates in a *continuation* of thought. The speaker having mentioned the subject of discourse proceeds to say to whom it belongs. An antithesis is then brought into view between some one person and another in a group of three. This requires emphasis and hence the frequent use of *dagesh forte* and an accent. But in addition to this it may be observed that the prepositions leave little room for the possessive pronoun *before* the noun in a language like the Hebrew which lays the accent predominantly on the last syllable, and had a strong

rhythmical pronunciation. Speakers of Hebrew were well content to say his and her after their nouns because they were out of the way when in that position. They never would have consented to encumber the noun with any prefixes, but demonstratives and short prepositions.

Gesenius calls the Yad in Melkizedec an old case particle which has lost all reference to case. It is also found in Melkishua. In "beasts of the earth" we meet with Vav accompanied by Kholem, **khayetho erets.** Gesenius says this is an old case particle. Green suggests that it is a modification of **hu** "he, that". I would ask why we should not regard both **i** and **o** as old forms of the construct which gradually fell out of use? If so, we have in each case a new vowel to denote a change from the absolute to the construct state. The vowel is usually emphasized by the addition of the accent. The form in Yad is more common than that in Vav.

The Assyrian, ancient Arabic, and modern dialect of central Arabia have a nominative in **u,** a genitive in **i** and an accusative in **a.** The Ethiopic has the accusative in **a.** These case particles may be demonstratives placed one by one after the noun when there was an antithesis which drew the speaker's attention. The meaning became plain to the listener by the attendant circumstances and gradually the demonstrative became a case particle. But these three suffixes are all vowels. The speaker may have used the protruded lips and small high aperture of **u** as a gesture to mark a nominative when in antithesis, for example, with an accusative. So also for the accusative he may have used the open mouth gesture of the vowel **ā** for an objective or inactive case. For the genitive he may have used **i** the vowel of intensity to emphasize the origin or some attribute of the nominative.

The comparison of adjectives is effected by using the preposition

min, mi, as in **t'obhah khokmah mippeninim,** "good wisdom from rubies" for "wisdom is better than rubies". The predicate is placed first and the subject stands before the object with which it is compared. The preposition **min** governs its accusative without transposition and in performing its duty as a case particle separates the subject from the object. **Mi** here means "than" and comes to have that sense on account of its position just as the comparative force of our suffix **er** is acquired simply by position. In Chinese "wisdom compare rubies good", expresses the same comparative superiority of wisdom over rubies. The predicate in Chinese stands last. With this exception the order agrees with that of Hebrew, *i. e.* the subject is before the object, and they are separated by the verb governing the object. The superlative is understood when the positive is so used as to suggest a superlative sense. Thus **hayafa bannashim** "the fair among women" is "the fairest among women". **Miggedolam** "from the great one of them" is used for "from the greatest of them. **Ve^{ng}ad qet'annam** "and to their little one" for "down to the least of them".

1. Assyr. Gram. page 102.

CHAPTER XIV.

ADVERBS, PREPOSITIONS, CONJUNCTIONS, INTERJECTIONS.

Adverbs are formed from nouns. **Ad** is "strong" and was early pronounced **ud, id, ul, ēl.** Elohim is God. **Meod** is "strength" and came to be used as an adverb "exceedingly". The idea is "with strength". The speaker says "strength". The listener understands him to mean "with strength". After a sufficient number of instances the word becomes endowed with the adverbial sense.

Adverbs are formed from adjectives. **Kēn** means "right" and becomes an adverb "thus". They are also formed from pronouns as **poh, zeh** "here", which are both of them demonstratives. Also from the absolute infinitive of verbs, **akēn** "surely", from **kan** "establish".

The adverbial termination in **am** found in **khinnam,** "gratis" **yomam,** "by day", it is remarked by Gesenius, is like the termination **ōm** and **ān** in many derivative nouns. **S'ullam** is "a ladder" from **s'alal** "ascend". He therefore explains the adverb in **am** as a noun used adverbially. Another explanation may be based on the fact that final **m** is a pronominal suffix in the formation of the plural in **im,** as also in many nouns, and in verbs when used as nouns, that is to say, participles, when the attention of the speaker is limited to the actors as acting. There are six uses of **m** as an affix or prefix to nouns. 1. As in **s'ullam,** "ladder", **pidyom** "ransom" from **padah** "ransomed". 2. In triliteral roots as **khatham** "to seal", "to close", compared with **kala** "to close", where **m** is added

to define and limit the sense to sealing. 3. In the plural as in **susim** "horses", 4. In **pithⁿgom** "in a twinkling", from **pĕthaⁿg** "twinkling", the adverbial suffix. 5. Verbal nouns as **mora** "fear" from **yara**, "he feared". 6. Participles with the prefix **m**. The vowel **a** may perhaps be viewed as a connective link between the root and the pronoun. It is the same vowel with that of the suffix **h** for "direction to".

The interrogative **ha** is the demonstrative changed by the hesitation of the speaker. This is the way in which all interrogatives arise. In English the demonstrative **that**, changes its tone when the speaker is in a dubitative mood and becomes **that?** So it was with the Hebrew **ha** which is found **hal** in Deut 32, 6. The final **l** would be added to distinguish the new sense.

Prepositions are formed from nouns. Thus **ētsel** "side" becomes "near to", and it is connected with **atsal** "joined" and **attsil**, "a joining, knuckle", which has *dagesh forte* to double the **t** of Tsade. **Lemaⁿgan** "on account of" is derived from **ⁿganah**, "to answer to".

The prefixes called inseparable prepositions **be, le, ke,** appear to be demonstratives deprived of their full form and in this respect they resemble the vowel prefixes of the future tense. They are formative particles derived from pronouns.

Since **d** becomes both **n** and **l** we may identify the Assyrian **adi, ana** with the Hebrew **le.** So Ass. **ina** "in, with" **itti** "with", may be Heb. **eth** "with".

Prepositions are also formed from verbs. **Bēn,** "between" is the verb **bin** "distinguish". From the verb **ⁿgamad,** "to stand" is formed **ⁿgimmad** with, which takes the suffix **i** in **ⁿgimmadi** "with me".

Conjunctions are in some instances transformed pronouns. as

ki "that"; or they are pronouns without change, as **asher** "who". This word becomes **sh** in Solomon's Song and in the language of the Talmud. This **sh** as a relative could not have sprung up unless with **asher** as its base.

The common conjunction **Ve** has the power of changing the past tense into the future and the future into the past. It is originally a hand and a copulative conjunction, and just as the hand is capable of forming negatives by pointing in an opposite direction, or by turning itself over, so its image the conjunction **Ve** has in the most recent Semitism, developed a similar power. Having this variety of power this conjunction is called **Vav** conjunctive or Vav conversive. Before the three lip consonants **b, m, p,** or **f,** Vav becomes **ū** and there are cases when it takes as its vowel **ā, ŏ, a** and some others.

The more common conjunctions are **ō** "or", **af** "also" **īm, lu** "if", **asher, ki** "that, because", **afki,** "how much more", **īm ki,** "but", **takhath ki** "because" **ngal kēn,** "therefore".

Pure interjections need never have been fully formed words. The vowel **ā** would be lengthened into **aha,** or **akh** and in these forms express in Hebrew our **ah! oh!** The lengthening would be mechanical.

Other interjections are words which have lost their definite sense by frequent colloquial use e. g. **hinnē** "behold!".

CHAPTER XV.

SYNTAX OF THE TRILITERAL PERIOD.

If we examine the syntax of the Chaldee portion of the Book of Daniel we find the verb placed very commonly last. This is a circumstance which can only be explained by the fact that education was in great part Accadian, and in the books taught the verb would be naturally in the last place because in the Accadian tongue (1), as in the Ural Altaic languages generally, the verb takes that position. The effect of education in books translated directly from a foreign tongue is very great and is seen particularly in the laws of position. While the Chaldee placed the verb last because the Accadian did so, the Accadian also placed the adjective after the substantive because the Semitic languages did so. In Professor Sayce's "Astronomy and Astrology of the Babylonians" many translations are given from Chaldee tablets. In these tablets the verb is usually last as in the biblical Chaldee. The tablets were constructed in the first instance in Accadian and afterwards were translated into Chaldee. In the Chaldee spoken and written in the schools of Babylon the order of words in sentences then was of a mixed character. But in vulgar Chaldee we should expect to find the verb placed just where it is in the Syriac Bible, that is at the beginning of the sentence. The Chaldee of the streets would in this point very possibly differ from that of the schools. But we cannot test this statement because all documents are drawn up in educa-

1. Lenormant.Langue primitive de la Chaldee p. 272. "There are many exceptions to the rule which places the verb last but the rule itself is undoubted".

tional Chaldee, the Aramaic of the Books of Kings and Ezra.

Both Babylon and Nineveh were on the edges of the Semitic area. The Syriac, the Hebrew, and the Arabic, are the most complete examples we possess of Semitic tongues. The Syriac syntax places the verb first and in this agrees with the Arabic and Hebrew. So also the Syriac adjective follows the noun and the genitive follows the nominative. To these are to be added in the Hebrew the change of the future tense into the past, and of the past into the future, caused by the use of the conjunction Vav.

At the commencement of the triliteral period the verb preceded the accusative, as we know from such examples as the pronominal suffixes afford in the Bible. As **ngazarŭm** "they helped them". Here the long ū of the preterite **ngazarŭ** "helped" is shortened to receive **m** a pronoun "them". Or take the sentence **kol ēlleh nasu nashim**, "all these took wives" Ez 10,44. Such was the Hebrew of B. C. 520 as written by Ezra and it has an extremely ancient look because it agrees with the principle that adjectives go before their nouns and is perfectly natural.

Any one reading the Hebrew Bible will notice that the syntax is more fixed than in Greek and Latin or than in English. There are indeed many variations but the variations are not like the European freedom in syntax which allows both the emphasis of meaning, and the effort to attain the beauty of prose rhythmus, to modify the order of words. They are rather the intermingling of primeval or biliteral syntax here and there with the new triliteral order of words which forms the staple of Hebrew style. Both kinds have a fixedness of their own.

A great peculiarity in triliteral syntax is the mode of expressing the present by the active participle. The aim of Semitic rhetoric is to avoid the present by the use of the past and future. Thus in

the first Psalm we have for the present in the first verse "walked not, stood not, sat not". In the second verse for the present there is a future "he shall meditate". Futures continue to be used till the sixth verse when an active participle takes the rôle of a present "The Lord (is) knowing the way of the righteous". The imaginative gifts of the Semitic people helped them to express the present tense by the past and future to a very large extent. It was not required therefore to form an additional tense and the participle **qot'ēl** was left in its condition as a declinable substantive without being sharpened into a tense of the indicative mood except in the case of **kum, bin,**etc. when the participle becomes **kam, ban,** a sort of indicative tense. The preterite and future are conclusive tenses and their time is defined clearly. The participle and infinitive belong to subordinate clauses without sharply outlining the time of the action. The participle therefore, being action in the form of a substantive, suits well for the present tense, when the clear outline of the time of the action is not required.

The subordinate clause and the conclusive clause are seen very well contrasted in the combination of the absolute infinitive with the conclusive tenses as in "dying thou shalt die" **mōth tamuth.** "Sitting thou speakest aganist thy brother" **tēshēb bŏākhika thedabbēr.** Here the verb as substantive (infin) is first, constituting the subordinate or circumstantial clause. It is followed by the future indicative, or conclusive verb.

There seems to be here a vestige of the old Turanian grammar from which the Semitic languages emerged through the effect of the collision between the quiet old life of antiquity with the glowing civilization of the Euphrates and the Nile. For in that old grammar a sentence is divided just in this way. There is a subordinate clause with an infinitive, gerund, or participle, and a conclusive

clause at the end with a verb in the indicative or imperative.

In the sentence "thou thoughtest that I was altogether such an one as thyself" Ps 50, 21, we have first the conclusive verb **dimmitha** "thou thoughtest me". Then follow the words **hĕyoth ehĕye** "being I shall be", **kāmokā** "like thee". The Turanian languages place the conclusive verb last and "being I shall be" would in these languages appear as two gerunds, each with its own suffix. Semitic grammar not liking two gerunds uses the infinitive construct **hĕyoth** "being" and the future **eheye** "shall be". If we call the indicative and imperative the real or concrete moods, and the infinitive, the gerund and the participle, the abstract moods, the Turanian or Ural Altaic order is

abstract — abstract — real

1st subordinate — 2nd subordinate — conclusive

The Semitic order in the sentence given is

real — abstract — real

conclusive — subordinate — conclusive

indicative — infinitive — indicative

The biliteral syntax out of which the triliteral Semitic syntax was evolved would be like the Ural Altaic as seen in Mongol and Japanese

Abstract and subordinate — real and conclusive.

These constitute the two ultimate forms to which all possible moods and tenses can be reduced, the abstract and the real. The way was open for this antithesis by the fact that words when first used are charged with emotion and when laid by in the memory they are weakened by the absence of emotion. This is the origin of the abstract moods, the infinitive and the gerund. The infinitive is the remembered form of the imperative, as the future is the predictive form of the imperative. The imperative is necessarily

the parent of both.

The Semitic speaker is fond of short indicative sentences as shewn by the extensive use of the conjunction Vav in the Old Testament. But this is comparatively late as the Vav conversive in Hebrew shows. Its extended use would be subsequent to the growth of the conjugations. Early in the period of the growth of the conjugations the division into concrete and abstract forms of the root would take place.

If we examine the verbs in the prayer of Solomon we find in the first sentence, I Ki 8, 12, an infinitive following a preterite. The preterite is conclusive "the Lord hath said". The infinitive is a subordinate clause "that he would dwell" (or dwells) in the thick darkness". The Hebrew is **āmar lishkon bā ărāfel** "he said to reside in darkness". The verb "reside" is **shakan.** The infinitive construct is **shĕkon** formed from the imperative which is also **shĕkon.** The prefix of the preposition **lĕ** "to" shows it to be a noun. It is then a different kind of verb now from what it was when it had the form **shakan** "dwelt". By change from **a** to **o** it is nominalized and becomes abstract, and is suited to be the verb of a circumstantial or subordinate clause. The biliteral root of the verb is probably **kun** "to establish".

In the 13th verse we read "a place for thee to dwell in for ever". The infinitive **shebeth** "to dwell" is again preceded by **lĕ.** In the 16th verse "I chose David to be over my people Israel", "to be" is the infinitive **hĕyoth** of the substantive verb preceded by **lĕ** "to". "I chose" is conclusive. "To be over Israel" is circumstantial.

It seems quite possible that Semitic compound sentences being in this way divisible into a conclusive clause with an indicative verb, and a circumstantial clause with an infinitive, the Semitic

syntax may have been evolved from a form of speech which was much more Ural Altaic than it was Semitic.

The infinitive is a substantive and at the same time a verb in the abstract. The active participle is a substantive too, but it brings the agent into view. It therefore takes a demonstrative suffix as a plural quite readily. In Ezek 32. 30 occur the words "in the terror which they caused by their might they are ashamed". The conclusive clause "they are ashamed" is an active participle in the plural **boshim**. **Boshim** is here a present, and yet is a plural noun "those who are ashamed". The Hebrew speaker might have gone forward to form a present tense from this participle which was quite ripe for the operation. But he, not caring as a Greek would have done for clearness of definition, preferred to limit his conclusive tenses to the past and future and to adopt a verb noun as his present tense. This was through his logical faculty being weak.

To show how much more of a noun than a verb the active participle is, the names of trades in Exodus 35, 35 may be adduced. We find there **khoshēb** "the cunning workman", **roqēm** "the embroiderer", **orēg** "the weaver". We have also **ngose kol mělākāh** "doers of every kind of work". Three names of trades and one common term for agents "makers" **ngosē**, are all in the form of the active participle. One feels inclined to ask when reading this if it would not be better to regard **orēg** "weaver and the others as derivatives which have become participles, rather than as participles which have become derivatives. The Tartar languages have an equivalent, as **bichigchi**, "writer, he who writes", called in grammars the participle of **bichihu** "to write". The Manchoo has a form precisely corresponding.

The Hebrew having such curious resemblances to Ural Altaic grammar suggests the possible evolution of Semitism from a language

having strong Ural Altaic features. But it must not be forgotten that the most of the Biblical Hebrew is cast in the mould of the indicative mood. Thus in Gen. 30, 31 "and he said what shall I give thee? And Jacob said Thou shalt not give me ought: if thou wilt do this thing for me, I will again feed thy flock and keep it". In the Hebrew of this verse there are positively eight futures, viz, two with Vav to make preterites, one interrogative "shall I give", one future to form a subjunctive with "if", and most curious of all at the end three futures in the first person without any conjunction to connect them, "I will return, I will feed, thy flock I will keep". This instance shews how fond the Hebrew speaker was of the indicative mood and how completely he had before Jacob's time swung loose from the fetters of the Ural Altaic syntax. In the next verse however the old distinction of the subordinate and the conclusive verbs occurs again, "I will pass by all thy flock this day, removing from thence every sheep spotted and speckled". The word "removing" is in the infinitive, and this shews that that mood may take the rôle of the participle, for if the meaning intended were "in order to remove", the preposition lĕ would have been employed. In the 36th verse "and Jacob fed the rest of Laban's flocks" the word "fed" is the active participle **ro^{ng}e** shewing, what was remarked above, that this participle came very near to being a tense in the indicative mood, in fact a historical present.

On the whole the extensive prevalence of the indicative mood is the result of modern influences in the triliteral age adding energy to the verb and imparting to it increased distinctness in time. With this as a clue if we prosecute our search it may result that as **ro^{ng}e** an active participle came near to becoming a preterite, so the modern preterite in Qamets and Pattakh may have originated in a participle.

In archaic Hebrew the subject stands before the predicate as

Ge. 2, 6 "and a mist went up" **Vĕ ēd ya^{ng}aleh,** "and a river went out from Eden", **Vĕ nāhār yotse** "from Eden". The predicate is a participle **yotse** used as a preterite or as a historical present. In the later Hebrew the subject is very often placed after the predicate as in the words, "And took the Lord God the man", "And commanded the Lord God to the man".

When the predicate is extended by the statement of the final cause of an action or of the result of the action of the chief verb, such an additional statement is in the infinitive with **lĕ** preceding. "Placed him in the garden of Eden to dress it and keep it". The infinitives with demonstrative suffix are **^{ng}ābhedā** and **shāmĕrāh.** Occasionally the causal conjunction **ki** is used with an indicative verb "because from man she was taken". This is another mode of extending the predicate.

If then we view the old syntax of the Hebrew Bible separately we have the following rules. Subject precedes predicate. Adjective precedes substantive. Demonstrative and adjective pronouns precede nouns. Genitive precedes nominative (1). Nominative precedes verb. Subordinate clause precedes conclusive clause (2).

The modern syntax of the Hebrew has often the verb belonging to the predicate before the substantive constituting the subject. Adjective follows substantive. Possessive and personal pronouns, and the article, follow their nouns. Genitive follows nominative, which has a special construct form. Nominative follows verb. Feminine has special forms, which in syntax are in agreement. Vav, "and", representing the hand, has the power of changing future to past and past to future. The Chaldee places the verb after its accusative and the article after its noun.

1. Appendix C.
2. Appendix B.

The western neighbour of the Semitic race, the Egyptian, places the adjective after the noun, and the genitive after the nominative which takes a construct form. It has special feminine forms which agree in syntax. It has also conjugations like the Semitic.

The Ural Altaic languages on the east of the Semitic area have the adjective before the substantive, the subject before the predicate, the subordinate clause before the conclusive clause, the nominative before the verb, and the verb after the accusative. Inseparable pronouns are case and tense suffixes and among them are possessive case suffixes. Separable pronouns stand before their verbs or nouns. Sentences end with the verb.

The Chaldee borrowed from the Accadians the principle of a sentence ending with the verb ; and the Accadians borrowed from the Semitic race the principle of the postposition of the adjective. The analogies of the triliteral or modern syntax of the Hebrew are with the old Egyptian grammar exclusively. The analogies of the old type of triliteral Hebrew are with Ural Altaic except in the position of the verb. In regard to the place of the verb the Chinese resembles the oldest Hebrew biliteral or triliteral. Let us suppose the existence of an ancient tongue which was first monosyllabic, but later became triliteral, and which further placed the verb before its accusative in agreement with Chinese and with nature, in other points agreeing with Ural Altaic. Such a supposed language might very well have been that form of speech from which the Semitic tongues emerged.

Every nation consists of units each having a free will and endowed with imitative faculties. As leaven spreads through a mass of kneaded dough, so a new principle in language may gradually pervade the widely scattered settlements of a nation. The leaven of imitated speech spread from Egypt throughout the Semitic area.

If it be considered that the same tendency which forces an adjective to a position after its noun, also operates to move possessive pronouns into the same position and to change the relative position of the noun and its genitive, there will not be any great obstacle to the recognition of the principle that the modern Hebrew syntax owes its peculiarity very much to foreign borrowing, aided by the great intellectual stimulus afforded through contact with the highly civilized life of ancient Egypt. Allowing all this it is still Semitic grammar and Semitic syntax with which we have to do. The place of the verb in English prose sentences differs often from the place of the verb in German prose sentences. The English syntax has been modified by the Norman conquest, but while it is to some extent Frenchified, it is still English. Semitic speech formerly underwent a greater change than this, but similar in kind.

CHAPTER XVI

ACTIVITY OF THE MIND EXHIBITED IN THE GROWTH OF LANGUAGE.

Each Semitic nation worked out its own grammar so far as it was peculiar, and those features which were common to all the grammars were imparted to this form of human speech previous to the separation into nations. But when this separation took place, habits become hereditary would tend to prevent any new variations introduced by any one nation from transgressing certain limits, and a common sentiment was sufficient to retain all of them within the range of the Semitic family.

The Semitic mind was hard at work in the construction of grammar and vocabulary both before and after the separation into families. The race was nomade and warlike. Its energy is shewn in the historical effects produced by it in literature, in war, in political government, and in art. Conquests and the occupation of foreign soil led to great changes in the language of this race.

The Semitic mind received as a legacy a treasure of old words monosyllabic in form and concatenated by a natural syntax without inversions. Words however are always apt to lose in part their signification. Each of them is liable to fade like a leaf or a flower. Meanings or sounds once lost cannot be recovered unless inscribed on bricks or stone, or bronze. Words need to be perpetually revivified by use, and here we see the effect of the activity of every energetic race. Each word and each grammatical principle is placed under tutelage. They are refreshed and modified as the needs of

the race demand, and educated for their destined career, being for this purpose variously modified in sense and sound. They are like nursery plants taken into training and capable of being put to new and unaccustomed uses among other surroundings when the proper time arrives.

The Semitic evolution came after the evolution of the monosyllabic mother tongue, known to be monosyllabic by the Hebrew shorter roots, which we may call the Asiatic mother language. In that language there were two classes of words, viz. significant words and auxiliary words or particles. These are what the Chinese call real words and empty words.

The Semitic mind began its operations on language by taking the words of the known vocabulary one by one, and attaching to many of them a pronoun to make them more polysyllabic and at the same time modify their sense to suit some new requirement. Others had their second radical doubled to make a third. Others took a pronoun as a third radical, with some corresponding modification in the meaning. Among the prefixes were some which made the verb causative, or passive, or transitive from being intransitive, and thus the foundation was laid for the conjugations. In this consolidation of roots there was clearly a tendency towards completeness, but the result was not uniform. Some roots never become triliteral. Others like **kun** "to establish", **man** "to reject, despise, melt" are only called so by an agreement of grammarians that **a** and **u** shall be known as consonants. The mind was ruled in the construction of the triliterals by a feeling for rhythmic symmetry. The grammatical consciousness was rudimental. Many thousands, perhaps millions of individuals, combined their efforts without an understood purpose. Certain hereditary habits, common experiences of social and political life, identical moral and religious ideas and similar

environments of civilized usages and inventions imparted to them a unity. So it was that in the absence of any intention the language destined for the use of about seven nations became of one type and through out the Semitic area the triliteral root prevailed.

The habit once initiated of forming derivatives by placing pronouns before and after the root, the system of expressing genders and plurals by selected derivatives would very early come into use, because the habit of compounding had been acquired and types of subsequent formations had appeared. These habits would develop into laws and the types would grow into conjugated verbs and declined substantives. A pronominal suffix in apposition with a root was transformed into the mark of the feminine or of the plural number.

In working out the multiplied forms of language an immense number of individuals are engaged through a very long period of time. Language is the outcome of countless experiments in sign making, experiments occasionally successful but generally unsuccessful, and the accepted word-symbols make up the sum total of a language. Human reason is needed from the beginning to the end of the language-making effort, and all the great triumphs of linguistic productiveness have taken place in consequence of intellectual activity.

All the powers of the mind need to be in exercise in the building up of language, just us they are in a later age required in building up a literature. Yet there are faculties called into exercise specially in the selection of sounds, suitable for their purpose in word-making and in the adoption of combinations of words in harmony with the general spirit of a language. Among the forms of mental activity most essential in word and sentence making is the power to symbolize ideas by sounds. The mind needed to have the

faculty of forming an idea and of selecting a sound to represent it. In addition to this the power to modify sounds was necessary. The way the mind works is to make a small change in the sound to represent a small change in the idea. It was requisite to have the power to double most of the consonants, and to intensify any vowel, consonant, syllable, or word by emphasizing it. Thus whenever repetition was required, or the revivifying of any sound, word, or sentence, this could be accomplished by the resources at the disposal of the mind. Such is the origin of all reduplication, emphasis, and intensity of utterance, in the grammar or in the vocabulary of a language. The power of contrasting opposites is the efficient cause of all instances of antithesis in the meaning of words, in the use of forms, and in the correspondence of sounds with each other.

The powers of abstraction and limitation were very essential. To make an infinitive or verbal noun out of a verb is to strip it of its vivid characteristics, take it out of space and time and deprive it of life and energy. This is done by storing it in the memory. The accessories wither and drop off while the plant remains. The mind ceases to give it attention, and this is all that is required to form an abstraction out of a concrete word. The mind makes derivatives and out of them develops conjugations, moods, and tenses, because it is able to restrict its attention to certain particulars and to symbolize only these in words. Then there is the power of identifying things that are like and distinguishing those that are different. The power to do this, joined with the use of the hands, opens the way for the affirmative and negative and all the forms of predication. The capacity to admire the true, the beautiful and the good has in language a very noble province for the exercise of its activity. It belongs to this faculty to provide forms of speech for the expression of all refined and elevated ideas. To this the development of rhyth-

mus and the expression of the musical beauty inherent in language is due. The powerful activity of the mind is specially in Hebrew perceptible in the order of words, revealing as it does a most vivid realism. Just as in Hebrew literature we have a lively picturing of nature and an exact delineation of the domestic and social life of high antiquity, so in the Hebrew style of speech we meet with a bold abruptness, a brevity in sentences, and a captivating variety of phrase, such as might be expected in the language of a nation accustomed to receive deep impressions from the view of the physical world. These qualities added to the transposition of words found in Hebrew add strikingly to the effect on the reader's mind, and he is stirred as by a modern work of high imagination. The religious ideas of the Hebrews and the manifestation of the divine in their theology find a suitable medium in their language. The triliteral vocabulary and grammar seem to have reached their fullest development soon after the time of Moses, and belong rather to the third millenium before Christ than to the second. The language is the product of the mental activity of a former age as the literature is the fruit of the inspiration, the divinely aided activity, of the prophets and historians of the Hebrew commonwealth. The Arabic language too has the same realistic and vivid characteristics that belong to the Hebrew, and bears in like manner the impress of an earlier age that that which produced the Koran.

The susceptibility of the Jews to external influence is shewn in the commercial spirit of that people occasioned by the dispersion of their race in the years B. C. 720, B. C. 587, A. D. 70. The commercial spirit was accompanied by ardent love of Babylonian and Greek philosophy and by a taste for philological learning, medicine and astrology. They retained the love of and practice of their religion. Wherever they have migrated the Rabbinical school

and the worship of the synagogue have gone with them.

In the age of the prophets and of the Hebrew monarchy the race of Israel shewed a remarkable proclivity to amalgamate the religious usages of the neighbouring nations. With conspicuous fickleness they tried to combine the worship of Jehovah with that of Baal, Ashtoreth, and Chemosh. Their aim was to interweave the new with the old. As they grew indifferent to their own religion the prophets increased their efforts to guard the ancient faith from decline. Warmed by a divine fire the Hebrew literature in their hands grew fast in extent and excellence. Their culture attracted the praise of Greek critics as in the well known passage in Longinus where he praises Moses the legislator of the Jews for the words which at the beginning of his law he relates that God used, "Let there be light, and there was light. Let there be the earth, and the earth was" (1). After this he proceeds to quote as before examples of the sublime from his favourite Homer.

The archaisms in the style of the Pentateuch may be viewed in spite of recent criticism as fully justifying the opinion that it is in the main a book of about B. C. 1450. and its contents shew how intimately connected the Hebrew race was with Egypt for several centuries before Moses (2).

Manetho who wrote in Egypt about B. C. 260 describes the invasion of the Hiksos which took place perhaps two thousand years before his time, as Maspero supposes (3). The Hiksos or shepherd kings were Canaanitish tribes and therefore Semitic and they conquered the 14th Egyptian dynasty. The Pharaoh of the days of Joseph was one of the Shepherd kings. It appears therefore that there was a Semitic conquest of Egypt in the third pre-Christian

1. Longinus. Sect. 9.
2. See Appendix A.
3. Histoire Ancienne par G. Maspero. p. 172.

millenium. It might have been at that time that the Semitic formerly biliteral but now triliteral type, borrowed certain features from the old Egyptian. We cannot now accede to Bunsen's statement "that night history was born" in allusion to the night of the first passover. Discoveries come fast and thick. Not long since M. Edoard Naville was so fortunate as to unearth Pithoum one of the two treasure cities of Pharaoh mentioned in Exodus. This lends historical confirmation to the second book of the Pentateuch. During this year, 1888, Babylonian documents have been found in Egypt which were written in Palestine in the time of the XVIIIth Egyptian dynasty (or in the 14th century before Christ) and were addressed to the Egyptian lord paramount by his officers having jurisdiction in Palestine (1). We connect this new fact with those documents in Genesis which speak of Babylonia and which resemble Chaldean traditions of the creation, the garden of Eden and the deluge. The hope may now be cherished that other discoveries will soon be made, such as are destined to throw more light yet on the history, which Bunsen thought was lost for ever, of the human race in the third and fourth milleniums before the birth of our Lord.

The notice of the expedition of Chedorlaomer in the 14th chapter of Genesis is of deep interest as indicating the path both of war and of commerce in those ages from Babylon to Egypt, **va** Damascus. Migrating nomades would at intervals move along the same road by which Jacob came from Padan Aram. Then as now Semitic speech was in vogue all the way from Babylon to Egypt. It is a curious fact that in the cuneiform tablets just now discovered the pronoun for I is **anuki** as in the Book of Genesis and in Phoenician, and not **anaku** as in Assyro Babylonian. From this and other evidence it would seem that the time when the Semitic languages

1. Contemporary Review, Aug. 1888. Prof. Sayce on recent discoveries.

were distinctly separated from each other was very ancient. If we have to go far back before we come to an age when Semitic dialects parted company, so in proportion are we parted by a very wide interval from the time when the biliteral or monosyllabic type was divided from the triliteral.

Ages of independent and special activity have in the growth of Semitic speech succeeded each other and the work done by the language creating faculty has in each of these ages been different. In this way the Hebrew language might like the Arabic have continued to work out its own progressive development till the present time, but for the captivities which scattered the Hebrew race and brought abruptly to an end the linguistic process.

APPENDIX.

A. *Archaic Hebrew in the Pentateuch.* Beside the use of the pronoun **hu** for the feminine as well as for the masculine, as also **na^{ng}ar** in both genders for boy and girl, to the exclusion of **hi, na^{ng}arah**, Professor Green mentions as peculiarities in the Hebrew of the Pentateuch **tsakhaq** "laugh" never **sakhaq**; **^{ng}annah nefesh** "afflict the soul", never **tsum** "fast" nor the later derivative **taănith; lekhem panim,** "shewbread" never **lekhem hamma^{ng}areketh; mamlākāh** "kingdom" never **mamlākuth, malkuth, mělukāh; shēsh** "fine linen", never **buts.** See Pentateuch in Schaff-Herzog Dict.

B. In archaic syntax the subordinate clause has an infinitive or participle, while the conclusive clause has an indicative tense Ex. Jud. 1, 7 "thumbs and great toes cut off were". The Pual participle **mĕk'uttsātsim** "cut off" precedes the indicative past **hayu.** I Sam 17, 57 "as David returned (inf.) Abner took him (indic)".

C. In archaic syntax the nominative follows the genitive. In Jud. 1, 7 Adonibezek in saying **behonoth yedehem veraglehem** "thumbs and great toes of their hands and feet" postponed the genitive, yet in saying **shibh'm mĕlakim behonoth** "seventy kings' thumbs and great toes" he placed the adjective first, then the genitive, and after it the nominative. Also V. II Ki. 7. 14, chariot horses.

In Dan 5, 6 we read "then the king's countenance was changed in him". Here the Chaldee places **malkā,** "the king" first and "his countenance" follows. This is contrary to the usual order. To smooth the transition the possessive suffix **i** is added to **zio** "countenance".

Such examples are most valuable for showing how far the eastern Asiatic syntax, as we may call it, lingers in Biblical Hebrew and Chaldee as a vestige of the primitive Semitic syntax.

D. *Additional examples of the evolution of consonants.* By Judges 12, 6 we learn that in Jephthah's time on the east of Jordan **sh** was used in words which had **s** on the west of Jordan in the land of Ephraim. This was about B. C. 1143. **Sh** is the top mixed consonant of Mr. Bell (1). **S** is his point mixed d°. Mr Sweet (2) places **s** on the gums a little farther back than **th**, the tongue being shortened. **Sh** he makes a midway point between **s** and **rh** near the arch. Thus **sh** is farther from the teeth than **s** and is more allied to **rh** and **jh**. In fact these letters with **th** all spring from **d**, the great barrier of separation between the lips and the position occupied by each. In Chinese **sh** and **ch** (tsh) are both historically later than **s** and **ts**, and the reason of this appears to be the fact that **sh** is in the mouth extended farther than **s**. Thus on the east of Jordan in the time of the Judges the language was moving faster than on the west, because **sh** is normally later than **s**, all letters springing from the lips and moving gradually inward. The farther a letter is from the teeth, the later is it likely to be.

Samech is an old **s**, while Sin is a new one formed by subdivision from Shin. Sin and Samech are formative in derivatives but not in conjugations, while **sh** is formative both in derivatives and in conjugations. Words with Samech as first radical would be oldest. From these Shin was formed with the help of detachments from **d** and **t**. Samech ceased to be active in letter forming. Shin was used at this juncture as a formative to make Shaphel and to originate Sin by subdivision. After the evolution of Sin the conju-

1. University Lectures on Phonetics p. 75.
2. Handbook of Phonetics, p. 39, 40.

gations were already complete, but some derivatives appeared with Sin as formative, and ultimately as radical. Thus in **s'as'** "moth" "the leaper", Samech is radical. In **s'afaq** "punish", it is formative and counts as a radical, while the real root is **paq** "to strike". **Shub** "return" is from **tab, tub** which are the Aramaic forms. Here **t** changes to **sh.** Indeed Samech, Shin and Sin interchange so much that safe etymology is content to recognize their unity of origin. It may be asked how for instance **dj** came into Arabic. The reply is that it was evolved from **g**, by insertion of **zh** and change of **g** to **d**, as in **gebel,** "mountain" which has become **jebel,** with the sound **dj.** So it has been that each dental and palatal consonant has come into existence by evolution from some other. Ultimately all are developed from the labials. Words with **ts** as initial all began with **t** long ago, and that **th** is a form of extension from **t** is so well known to grammarians, that both these sounds have always been embraced without hesitation under the one symbol Thav.

The Hebrew Ayin appears to be the surd nasal at the back of the tongue. It is without voice and this accounts for the difficulty found in describing it. In China the voiced and unvoiced **ng** are both common as initials. For example the Peking dialect has the unvoiced **ng** and Tientsin, 80 miles away, the voiced. It appears as a tremor in the voice passage and gradually becomes stronger. The Hebrew Ayin would be this guttural tremor prefixed to a vowel in the case of one detachment of words, and probably takes the place of some guttural letter in another detachment. In the Septuagint Ayin is transliterated by short **o**, or **g**, or **a.** In Arabic there are two values, a guttural rattle or surd nasal, and a hard **gh** marked by a diacritic point. This **gh** is like an **r** but never quite deserts **k.** In the etymology of Hebrew words having Ayin we need to regard this consonant sometimes as added to the root

and at other times as evolved from some other consonant. Much difficulty is thus avoided.

E. *Aspiration.* In the Tartar languages, in Welsh, in Danish, Swedish and Norwegian the letters **k, t, p** at the beginning of a syllable always take an aspirate after them.

The Septuagint represents Teth sometimes by **d.** It is **t** in the Carthaginian words occurring in the Poenulus of Plautus. Professor Sayce assigns **dh** as its value, Assyr. Gr. p. 25.

F. *Vowels change to consonants.* In Turkish **ui** "house", as pronounced in the Turkish provinces of the Chinese empire, becomes ev in the Turkish of Constantinople. The city of Merv is Muru in Zend, "the strong, holy Muru". Darmesteter's Zend Avesta.

G. *Accent.* The principal accent in Hebrew is on the last syllable. Verbs take this accent as in **mālák** "he ruled". The mind uses accents to distinguish parts of speech. Thus the penultimate accent helps to mark nouns as in **mélek,** "king". There is a secondary accent on the antepenult known as **metheg** "bridle". It was only in the later stages of the evolution of speech that the mind began to make important use of accents.

H. *Action of hand in accounting for the origin of roots.* Words meaning "to hide", **s'athar, r** formative, **natsar, n** formative. Root **sat, tsar** from **yad,** the hand being used to express the act of hiding. Words meaning "to be contumacious, rebel, **marad, marah,** may be demonstrative in origin from pointing in the opposite direction. **S'arar** "to be disobedient", **s'ur** "to depart", **yatsa** "go out", may also be thus explained. This is not an unreasonable supposition. Mental excitement follows on the communication of information by the eye. In consequence the hands move and point to some person or thing. The mouth utters some sound which as far as

possible indicates the feeling of the speaker. The sound is a word meaning hand or to point or (since the person is going away) the farther demonstrative "that". Any anger or contempt that may be felt is understood from facial expression or scornful inflection in the tone of voice. In each case a gesture is part of the root.

I. *Roots*. A very large number of common ideas may be roughly represented by the action of the hand in imitation of observed human actions. Roots consist of two or more out of three elements. 1. Natural sounds imitated. 2. Pronominal sounds and sounds denoting the hand and its actions. 3. Special meaning, understood by the listener from his observation of the speaker's tone of voice, facial expression and gestures of the head, eyes, shoulders, hands and arms. This special meaning is attached to every root.

Roots derive their sound from 1 and 2, and their special meaning from 3. They do not derive their sound from the last mentioned source except when the gestures occasion collisions, or musical effects audible to the ear.

INDEX.

Abstract moods, 125.
Abstraction, a mental operation, 135.
Accadian influence, 57, 58, 122.
Accent, 6, 25.
Adjective, 109, before its noun, 55, reasons for postposition, 56.
Adverbs, 119.
Affirmative and negative, 46, 91.
Antithesis, in nouns, 109, in adjectives, 111, in the possessive, 116, in gender, 87, in words through the mind contrasting opposites, 135, contrast in formation of moods, 100, 101, 103.
Arabic, 59, 136.
Aramaic, 59, Syriac, 122, 123.
Archaisms in Pentateuch, 112, 137, 140.
Asiatic mother language, 133, compare, 130.
Aspiration, 41, 42, 143.
Augment, harmonic, 73.

Behind, 69.
Bell's Visible Speech 10, 29, 38, Lectures, 141.
Bend 17, 18.
Biliterals roots 18, 20, 43, 92, are the true roots, 43, examples of labial, d° 43, 45, many indicate civilization, 46.
Birds, 28.
Borrowed words and laws, 97.
Breathe, 89.
Bunsen, 138.

Cacophony, fancied, 70.
Case 115, 116, direction to, possessive, 116, in Arabic, 117.
Case prefixes older than case suffixes, 46, 49.
Causative 106, 107 type in roots 80.
Chaldee, 122, 129, 140.
Change in sense leads to change in sound 3.
Chinese 56, 130, 141.
Circumstantial clause 126.

Civilization of biliteral times 46, on Euphrates and Nile 60, 64, 69, 97.
Comparison of adjectives 118.
Conjugations 95, 96, 104, types in roots 78.
Conjunctions 119, 121.
Consonants. Table of, 38, origin of evolution 38, five principles of evolution, 39 to 42, additional examples of, 141.
Concave, bend 75.
Conclusive clause 124, 125.
Cover 27.
Cries of animals, 25, 10.

Demonstrative is the source of other pronouns, 83.
Dental period, that of civilization, 19.
Derivation, 89.
Doubling letters to intensify, 111.

Egyptian language, 56, 78, 95, 96, 97. syntax 130.
Emotion in verbs, 92, increase of emotion changes vowels 92, a principal factor in forming moods, tenses and conjugations. ch. XI, XII.
Erpenius, 62.
Evolution of sounds, 29, of vowels 29, of consonants 38, 141.
Extension letters, 40, in tables 29, 38.
Eye aids in speech, 2.

Feminine 82, 87, 112 Late formation of, 134.
Foot, 9, 16.
Formative. Sonants once, 80.
Found, foundation, 93, 94.
Fürst 43, 62, 63, 74.
Future, 100.

Gender, 86, an instance of derivation, 112, not uniform, 113, 114.
Genitive, postposition of 56, 129, 140.
Genus, 27.
Gerunds in Ural Altaic, 125, Semitic infinitive for, 125.
Gesenius, 62, 117, 74.
Green, Hebrew Grammar 81, 110, in Schaff Herzog. 140.
Guttural period, 19, gutturals, 41.

Hand aids in speech, 3, 4, 14, 15, 45, 91, 93, action in making pronouns, 48, d° in making many verbs, 48 names for hand, 14.
Hang, 24.
Hebrew one of the most complete of Semitic languages, 123, written about B.C. 1600, 11, became a dead language, 139, 11, 69.
Hide, 17.
High, gab, 72, 75, 80.
Hiphil, 106, 107.
Hithpael, 108.

Imitation of natural sounds, 4.
Imperative, 99.
Indicative, 98 to 100, 126, Semitic fondness for, late, 126, 128.
Indo European, 95.
Infinitive, 99, 102, in subordinate clause, 126.
Insertion of a letter, 75, 76.
Intensitive prefix **s**, or **sh** or **a** 73, 80. Intensitive mark, 111.
Intensity of emotion causes strong muscles to be used, 35, 74, 92.
Interjections 74, 119.
Interrogatives 120.
Iron, 24.

Kal, 98.

Labial period 4, 5, 18, priority of labial letters, 4, 8.
Letter changes from lips to throat, 4, 8 to 13.
Limitation, of ideas assigned by the mind, 19, as a mental power, 135.
Lips adapted to utter the first articulate sounds, 1.
Longinus praises Pentateuch, 137.

Manchoos 108.
Manetho, 137.
Masculine, 87, All nouns masc. as a rule, 113.
Maspero, 137.
Mental states as they are emotional or tranquil are a main cause in producing the distinction in the parts of speech, 92.
Mind is the true wordmaker, 3, activity of mind in language, 132.
Mongol, 95.
Moods and tenses 95, abstract and subordinate moods. 125. real and conclusive moods, 125.

Moral words proceed from material words, 5, 24, 25,
Müller, Max, 36, Friedrich, 57.
Music, 25.
Mutable and immutable vowels, 111.

Nasals and sonants precede surds 5, 22.
Naville, 138.
Negative, 91.
Niphal, 105.
Noiré, 36.
Number, singular and plural 114.
Number of biliteral and of triliteral roots, 43.
Numbers 19.

Opposite mental states, 101.
Order of time and nature, 4, 13.

Paradigms slowly formed, 91.
Participle 100, 102, 123.
Passive prefix in roots, 79.
Passive in adjectives, 110. Niphal 105.
Peile, 29.
Pentateuch, language archaic 112, 115, 136, 137, 140.
Physiology needed, 63, physiological 66, ignored, 66.
Piel, 105.
Pity, 25, 104.
Plural, 87, 114.
Poetry, 25, 48.
Pointing, 14, 15, 94.
Possessive after its word, 54, 86, 116.
Predicate 15, 128, 129, extension of, 128, 129 primitive d° modern d°, 129.
Prefix, pronominal 71, 84, formative **m, l.** 81, **wa** in Arabic, 80.
Prepositions 120, of demonstrative origin 48.
Present tense wanting, 127.
Press, 16.
Preterite, 98.
Principles observed in all languages, ten, 3 to 7.
Pronouns, 82, 8, origin of interrogative, 8, among biliterals, 46, 47, as suffixes added to mark new meanings, 74, personal pronoun after its word, 55.

Radicals 76. Some formatives become radical 81.
Reciprocal conjugation 108.
Reflexive, 108.
Repetition 70, 74, of a consonant, 111.
Rhythmus 25, 135.
Rise, **kum**, 8, 65.
Roots, their constitution 6, 26, original Semitic, 9, biliteral roots. 43, labial biliterals. 44, roots with labial initials only, 44, growth of triliterals, 65, some are infinitives, 65, some are preterites, 65. are roots verbs? 90.

Sayce, Assyrian Grammar, 19, 33, 83, Assyrian vowels, 34, Science of Language, 57, 63, 96, on recent discoveries, 138.
Scatter, badar 22, 24, futs, 79.
Seek, 25.
Semitic mind commenced triliteralism, 21, 50, 51, growth of grammar slow, 49, forming paradigms, 64, Semitic speech always actually in use, 69, occupation of Egypt, 88, hypothetical old type of language, 130, spread of African features in Semitic type, 130. Semitic mind at word on language 132, 133, Semitic area, 59.
Septuagint 11.
Servile 22, 76.
Shepherd kings of Egypt, Hyksos, 88, 137.
Shibboleth 141.
Shut consonants 39.
Sonant to surd, anterior to B. C. 1600, 23.
Sounds are all in a state of flux 10, visible sounds the oldest, 10.
Species, origin of 5, 27.
Straight 24.
Subordinate clause 124, 140.
Substantives 92, 109 marked by Segol 109.
Substantive verb 14, 15.
Suffixes, pronominal 74, 84.
Surds 23, 39, appearance in China 24.
Sweet 109, 141.
Syntax of biliteral period, 52, 129, in sheltered places, 58, of triliteral period, 122, 129, archaic, 140.
Syriac, 123.

Ten, its etymology, 19.
Ten general principles in language, 1 to 6, in Hebrew 8 to 28.
Teutonic inflection, 34.
Tones 5, 6, 25.
Tongue, aids in speech, 2, loosing of, 73.
Tooth letters, 40.
Trades, names of, 127.
Transitive prefix as in roots, 79, transitive verb, 105, 107.
Transpositions, verb, 52, genitive, 52, adjective, 53, Vav conversive, 53, originated in triliteral age, 54, of radicals, 74, 47.
Tree, 20.
Triliteral roots a step towards polysyllabic structure, 43, triliteral age subdivided, 61, oldest treatises on triliteral roots, 61, five principles in formation of triliterals from biliterals, 70.
Types of verb were three before paradigm age 68, types of conjugations in triliteral roots, 78, 133.

Ural Altaic or Turanian, 56, 97, 125 syntax 129, resemblances to Semitic syntax, 128, Semitic possibly evolved from, 128, hypothetical, primitive type, chiefly Ural Altaic with Chinese admixture, 128, 130.

Vav conversive 51, 52, 123, 126.
Verb 55, 58, 65, 89, 95, 104, in Syriac 67, a substantive 127.
Voluntary, **nadab** 72.
Vowels, three primitive 10, high, mid, low 10, state of vowels B. C. 1600, 11.
Vowels derived from **a**, 13, 31, late development 26, thirty six vowels 30, physiologically adapted for use in inflection, 34, vowels opposed denote active and passive, 35, marks of moods and tenses 35, used in biliteral period to mark the sense of words, 50, becoming consonants, 67.

Will acts through lower jaw, 35, 98, 99, and selects and modifies sounds 133, 134.
Writing of Hebrew B. C. 1600, 10.

Yad represents **i**, 12.

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